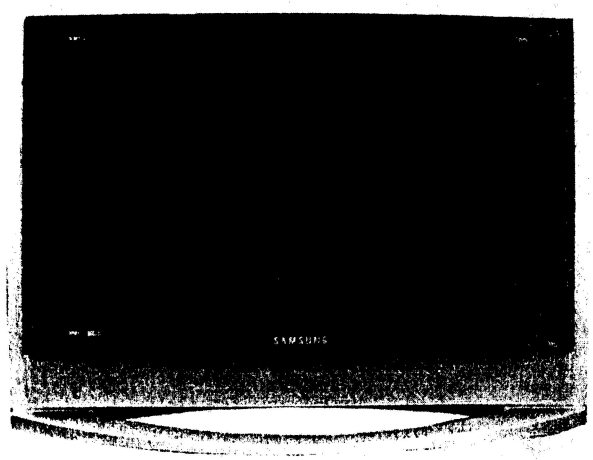
SAMSUNG

TFT-LCD TV/MONITOR

Chassis **Model**
NF26EO **LW26A33W**

SERVICE Manual

TFT-LCD TV/MONITOR



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1 Precautions

Follow these safety, servicing and ESD precautions to prevent damage and to protect against potential hazards such as electrical shock.

1-1 Safety Precautions

1-1-1 Warnings

1. For continued safety, do not attempt to modify the circuit board.
2. Disconnect the AC power and DC Power Jack before servicing.

1-1-2 Servicing the LCD TV

1. When servicing the LCD TV Disconnect the AC line cord from the AC outlet.
2. It is essential that service technicians have an accurate voltage meter available at all times. Check the calibration of this meter periodically.

1-1-3 Fire and Shock Hazard

Before returning the TV to the user, perform the following safety checks:

1. Inspect each lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the TV.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
3. Leakage Current Hot Check (Figure 1-1):
   WARNING: Do not use an isolation transformer during this test.
   Use a leakage current tester or a metering system that complies with American National Standards Institute (*ANSI C101.1, Leakage Current for Appliances*), and Underwriters Laboratories (*UL Publication UL1410, 59.7*).

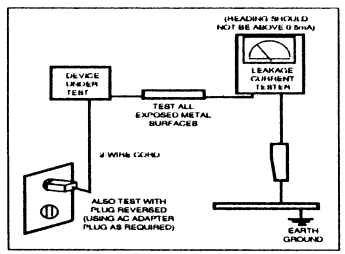

(READING SHOULD NOT BE ABOVE 0.5mA)
DEVICE UNDER TEST
LEAKAGE CURRENT TESTER
TEST ALL EXPOSED METAL SURFACES
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUG AS REQUIRED)
EARTH GROUND

Figure 1-1. Leakage Current Test Circuit

4. With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

1-1-4 Product Safety Notices

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection. The protection they give may not be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by ⚠ on schematics and parts lists. A substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

1-2 Servicing Precautions

WARNING: **An electrolytic capacitor installed with the wrong polarity might explode.**

Caution: Before servicing units covered by this service manual, read and follow the Safety Precautions section of this manual.

Note: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions.

1-2-1 General Servicing Precautions

1. Always unplug the unit's AC power cord from the AC power source and disconnect the DC Power Jack before attempting to:
   (a) remove or reinstall any component or assembly, (b) disconnect PCB plugs or connectors, (c) connect a test component in parallel with an electrolytic capacitor.
2. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
3. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the area around the serviced part has not been damaged.
4. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
5. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500 V) to the blades of the AC plug.
   The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
6. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

1-3 Electrostatically Sensitive Devices (ESD) Precautions

Some semiconductor (solid state) devices can be easily damaged by static electricity. Such components are commonly called Electrostatically Sensitive Devices (ESD). Examples of typical ESD are integrated circuits and some field-effect transistors. The following techniques will reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. To avoid a shock hazard, be sure to remove the wrist strap before applying power to the TV.
2. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of an electrostatic charge.
3. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESDs.
4. Use only a grounded-tip soldering iron to solder or desolder ESDs.
5. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
7. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   Caution: Be sure no power is applied to the chassis or circuit and observe all other safety precautions.
8. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting your foot from a carpeted floor can generate enough static electricity to damage an ESD.

2 Product Specifications

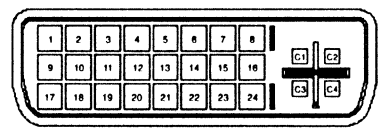
2-1 Specifications

Item	Description
LCD Panel	TFT-LCD Panel, RGB vertical stripe, normaly Black, 26-Inch viewable, 0.537 mm pixel pitch
Scanning Frequency	Horizontal : 30 kHz ~ 68 kHz (Automatic) Vertical : 56 Hz ~ 85 Hz (Automatic)
Display Colors	16.7 Million colors
Maximum Resolution	Horizontal : 1280 Pixels Vertical : 768 Pixel
Input Video Signal	Positive at 75 Ω
Input Sync Signal	Type : Seperate H/V Level : TTL level
Maximum Pixel Clock rate	80 MHz
Active Display Horizontal/Vertical	687.36 mm / 412.42 mm
AC power voltage & Frequency	AC 100 ~ 264 Volts, 50~60 Hz ± 3 Hz
Power Consumption	130 W
Dimensions (W x D x H) Set Package	 29.17 x 10.89 x 20.70 Inches (741.0 X 276.8 X 526.0 mm) State of stand installed 29.17 x 4.68 x 16.92 Inches (741.0 X 119.0 X 498.5 mm) State of stand disassembled 34.49 x 13.35 x 28.11 Inches (876.0 X 339.0 X 714.0 mm)
Weight Set / Package	 15.0 kg (33.07 lbs) / 16.8 kg (37.04 lbs)
Environmental Considerations	Operating Temperature : 50 °F ~ 104 °F (10 °C ~ 40 °C) Operating Humidity : 10 % ~ 80 % Storage Temperature : -4 °F ~ 113 °F (-20 °C ~ 45 °C) Storage Humidity : 5 % ~ 95 %
TV System	Tunning : Frequency Synthesize System : PAL/SECAM-B/G/I/D/K/L/L : NTSC (AV) Sound : STEREO
Antenna Input	75Ω
Sound Characteristic	- MAX Internal speaker Out : Right => 5W Left => 5W - BASS Control Range : -8 dB ~ + 8dB - TREBLE Control Range : -8 dB ~ +8 dB - Headphone Out : 10mW MAX - Output Frequency : RF : 80 Hz ~ 15 kHz A/V : 80 Hz ~ 20 kHz

2-2 Pin Assignments

2-2-1 DVI-D

Ref) DVI-D : Digital only
D-SUB : Analog only



DVI-I Receptacle Connector Front View

Pin No.	Signal Assignment	Pin No.	Signal Assignment	Pin No.	Signal Assignment
1	RX2-	11	GND	21	NC
2	RX2+	12	NC	22	GND
3	GND	13	NC	23	RXC+
4	NC	14	DDC Input Power(+5V)	24	RXC-
5	NC	15	IDENT_PC		
6	DDC Clock (SCL)	16	5V		
7	DDC Data (SDA)	17	RX0-		
8	Analog Vertical Sync.	18	RX0+		
9	RX1-	19	GND		
10	RX1+	20	NC		

2-2-2 SCART 1

Pin	Separate	Pin	Separate
1	SC1 RED OUT	12	N/C
2	SC1 RED IN	13	GND
3	SC1 LEFT OUT	14	GND
4	GND	15	SC1 RED
5	GND	16	GND
6	SC1 LEFT IN	17	SC1 FAST BLANKING
7	SC1 BLUE	18	GND
8	SC1 SWITCHING	19	SC1 CVBS OUT
9	GND	20	SC1 CVBS IN
10	N/C	21	GND
11	SC1 GREEN		

2-2-3 SCART 2

Pin	Separate	Pin	Separate
1	SC2 RED OUT	12	N/C
2	SC2 RED IN	13	GND
3	SC2 LEFT OUT	14	GND
4	GND	15	N/C
5	GND	16	N/C
6	SC2 LEFT IN	17	GND
7	N/C	18	GND
8	SC2 SWITCHING	19	SC2 CVBS OUT
9	GND	20	SC2 CVBS IN
10	N/C	21	GND
11	N/C		

2-2-4 S-Video

Pin	Separate
1	GND
2	Y
3	C
4	GND
5	GND

2-2-5 A/V

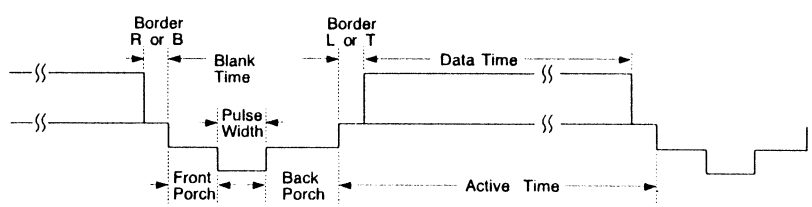
RCA Yellow	CVBS
RCA White	Audio L
	GND
RCA Red	Audio R
	GND

2-3 Timing Chart

This section of the service manual describes the timing that the computer industry recognizes as standard for computer-generated video signals.

2-3-1 LCD Panel Mode1 mode

Timing No.	
Originator	VESA DTV
Mode Name	1280/60Hz
Resolution (HxV)	1280x720
HORIZONTAL	
Frequency	45 kHz
Total time	22.200 µs
Activetime	17.239 µs
Blank time	4.984 µs
Border(L / R)	0.000 µs
Data time	17.239 µs
Front porch	0.943 µs
Sync. width	0.539 µs
Back porch	3.502 µs
Sync. polarity	Negative
VERTICAL	
Frequency	60Hz
Total time	16.000 ms
Active time	16.000 ms
Blank time	1.222ms
Border(T/B)	0.000ms
Data time	16.000 ms
Front porch	0.667ms
Sync. width	0.111ms
Back porch	0.444 ms
Sync. polarity	Positive
Dot Clock	74.25 MHz
Sync. Type	Separate
Scan Type	N/I



2-3-1 Supported Modes (1)

Timing No.	2	3	11	17	32
Originator	IBM	IBM	VESA	VESA	MAC
Mode Name	VGA2	VGA3	640/72Hz	640/75Hz	640/67Hz
Resolution (HxV)	720x400	640x480	640x480	640x480	640x480
HORIZONTAL					
Frequency	31.469kHz	31.469kHz	37.861kHz	37.500kHz	35.000kHz
Total time	31.777μs	31.778μs	26.413μs	26.667μs	28.571μs
Active time	26.058μs	26.058μs	20.825μs	20.317μs	21.164μs
Blank time	5.720μs	5.720μs	5.588μs	6.350μs	7.407μs
Border(L / R)	0.318μs	0.318μs	0.254μs	0.000μs	0.000μs
Data time	25.422μs	25.422μs	20.317μs	20.317μs	21.164μs
Front porch	0.318μs	0.318μs	0.508μs	0.508μs	2.116μs
Sync. width	3.813μs	3.813μs	1.270μs	2.032μs	2.116μs
Back porch	1.589μs	1.589μs	3.810μs	3.810μs	3.175μs
Sync. polarity	Negative	Negative	Negative	Negative	Negative
VERTICAL					
Frequency	70.087Hz	59.940Hz	72.809Hz	75.000Hz	66.667Hz
Total time	14.268ms	16.683ms	13.735ms	13.333ms	15.000ms
Active time	13.155ms	15.761ms	13.100ms	12.800ms	13.714ms
Blank time	1.113ms	0.922ms	0.635ms	0.533ms	1.286ms
Border(T/B)	0.222ms	0.254ms	0.211ms	0.000ms	0.000ms
Data time	12.711ms	15.253ms	12.678ms	12.800ms	13.714ms
Front porch	0.191ms	0.064ms	0.026ms	0.027ms	0.086ms
Sync. width	0.064ms	0.064ms	0.079ms	0.080ms	0.086ms
Back porch	0.858ms	0.794ms	0.528ms	0.427ms	1.114ms
Sync polarity	Positive	Negative	Negative	Negative	Negative
Dot Clock	28.322MHz	25.175MHz	31.500MHz	31.500MHz	30.240MHz
Sync. Type	Separate	Separate	Separate	Separate	Separate
Scan Type	N/I	N/I	N/I	N/I	N/I

2-3-1 Supported Modes (2)

Timing No.	13	14	18	33
Originator	VESA	VESA	VESA	MAC
Mode Name	800/60Hz	800/72Hz	800/75Hz	832/75Hz
Resolution (HxV)	800x600	800x600	800x600	832x624
HORIZONTAL				
Frequency	37.879kHz	48.077kHz	46.875kHz	49.726kHz
Total time	26.400μs	20.800μs	21.333μs	20.110μs
Active time	20.000μs	16.000μs	16.162μs	14.524μs
Blank time	6.400μs	4.800μs	5.171μs	5.586μs
Border(L / R)	0.000μs	0.000μs	0.000μs	0.000μs
Data time	20.000μs	16.000μs	16.162μs	14.524μs
Front porch	1.000μs	1.120μs	0.323μs	0.559μs
Sync. width	3.200μs	2.400μs	1.616μs	1.117μs
Back porch	2.200μs	1.280μs	3.232μs	3.910μs
Sync. polarity	Positive	Positive	Positive	Negative
VERTICAL				
Frequency	60.317Hz	72.188Hz	75.000Hz	74.551Hz
Total time	16.579ms	13.853ms	13.333ms	13.414ms
Active time	15.840ms	12.480ms	12.800ms	12.549ms
Blank time	0.739ms	1.373ms	0.533ms	0.865ms
Border(T/B)	0.000ms	0.000ms	0.000ms	0.000ms
Data time	15.840ms	12.480ms	12.800ms	12.549ms
Front porch	0.026ms	0.770ms	0.021ms	0.020ms
Sync. width	0.106ms	0.125ms	0.064ms	0.060ms
Back porch	0.607ms	0.478ms	0.448ms	0.784ms
Sync polarity	Positive	Positive	Positive	Negative
Dot Clock	40.000MHz	50.000MHz	49.500MHz	57.284MHz
Sync. Type	Separate	Separate	Separate	Separate Compsite Sync.- on-G
Scan Type	N/I	N/I	N/I	N/I

2-3-1 Supported Modes (3)

Timing No.	15	16	19	
Originator	VESA	VESA	VESA	VESA
Mode Name	1024/60Hz	1024/70Hz	1024/75Hz	1280/60Hz
Resolution (HxV)	1024x768	1024x768	1024x768	1280x768
HORIZONTAL				
Frequency	48.363kHz	56.476kHz	60.023kHz	47.700kHz
Total time	20.677μs	17.707μs	16.660μs	20.964μs
Activetime	15.754μs	13.653μs	13.003μs	15.973μs
Blank time	4.923μs	4.053 μs	3.777 μs	4.992μs
Border(L / R)	0.000μs	0.000μs	0.000μs	0.000μs
Data time	15.754μs	13.653μs	13.003μs	15.964μs
Front porch	0.369μs	0.320μs	0.323μs	0.799μs
Sync. width	2.092μs	1.813μs	1.219μs	1.697μs
Back porch	2.462μs	1.920μs	2.235μs	2.496μs
Sync. polarity	Negative	Negative	Positive	Negative
VERTICAL				
Frequency	60.004Hz	70.069Hz	75.029Hz	60.000Hz
Total time	16.666ms	14.272ms	13.328ms	16.667ms
Active time	15.880ms	13.599ms	12.795ms	16.101ms
Blank time	0.786ms	0.672ms	0.533ms	0.566ms
Border(T / B)	0.000ms	0.000ms	0.000ms	0.000ms
Data time	15.880ms	13.599ms	12.795ms	16.101ms
Front porch	0.062ms	0.053ms	0.017ms	20.964ms
Sync. width	0.124ms	0.106ms	0.050ms	62.893ms
Back porch	0.600ms	0.513ms	0.466ms	482.180
Sync polarity	Negative	Negative	Positive	Positive
Dot Clock	65.000MHz	75.000MHz	78.750MHz	80.136MHz
Sync. Type	Separate	Separate	Separate	Separate
Scan Type	N/I	N/I	N/I	N/I

Memo

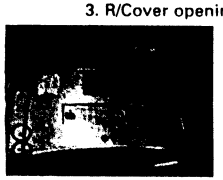
3 Disassembly and Reassembly

This section of the service manual describes the disassembly and reassembly procedures for the LW26A33W monitor.

WARNING: This monitor contains electrostatically sensitive devices. Use caution when handling these components.

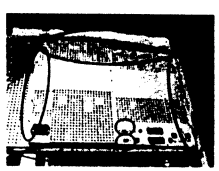
3-1 Disassembly

Cautions: 1. Disconnect the monitor from the power source before disassembly.
2. Follow these directions carefully; never use any metal instrument except provided jig to separate the cabinet.
3. R/Cover opening jig : BH81-00001A

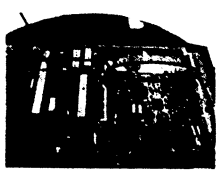


1. Place monitor face down on cushioned table. Remove 4 screws from grip on the stand and remove the stand.

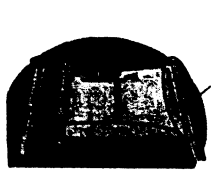
2. Remove 9 screws from the rear cover and lift up the rear cover.



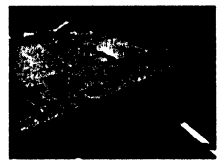
3. Disconnect speaker cable, function cable from the shield and remove 19 screws from the shield.



4. Remove 18 screws from the boards and disconnect LVDS cable, inverter cable from the boards.



5. Remove 18 screws from the cabinet BRKT and lift up the panel.



6. Remove 4 screws from the panel BRKT. (Top/Bottom)
Disconnect BRKT from the panel.

7. Remove 4 screws from the panel BRKT. (Left/Right)
Disconnect BRKT from the panel.

3-2 Reassembly

Reassembly procedures are in the reverse order of dissasembly procedures.

4 Alignments and Adjustments

4-1 General Alignment Instuction

1. Usually, a color TV-VCR needs only slight touch-up adjustment upon installation. Check the basic characteristics such as height, horizontal and vertical sync.
2. Use the specified test equipment or its equivalent.
3. Correct impedance matching is essential.
4. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV. When inserting signal markers, do not allow the marker generator to distort test result.
5. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.
6. Do not attempt to connect or disconnect any wire while the TV is turned on. Make sure that the power cord is disconnected before replacing any parts.
7. To protect aganist shock hazard, use an isolation transform.

4-2 Factory Mode Adjustments

4-2-1 Entering Factory Mode

1. To enter "Service Mode" Press the remote -control keys in this sequence :
   - If you do not have Factory remote - control

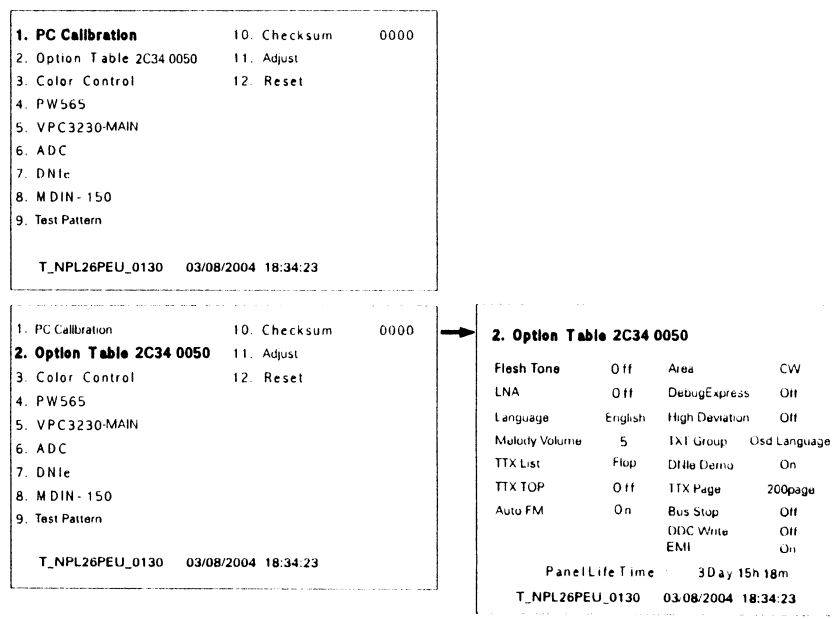
Power OFF → INFO → MENU → MUTE → Power ON

   - If you have Factory remote - control

PICTURE ON → DISPLAY → FACTORY

- The buttons are active in the service mode.
  1. Remote - Control Key : Power, Arrow Up, Arrow Down, Arrow Left Arrow Right, Menu, Enter, Number Key(0~9)
  2. Function - Control Key : Power, CH +, CH -, VOL +, VOL -, Menu, SOURCE(Enter)

4-2-2 Factory Mode Tree



1. PC Callbration	10. Check sum	0000
2. Option Table 2C34 0050	11. Adjust	
3. Color Control	12. Reset	
4. PW565		
5. VPC3230-MAIN		
6. ADC		
7. DNIe		
8. MDIN-150		
9. Test Pattern		

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3. Color Control

Pw565 White Balance

Dnie White Balance

3. Color Control

Pw565 White Balance

Sub-Brightness(DNIe)	127	Sub-Contrast	155
Red Offset	128	Red Gain	128
Green Offset	128	Green Gain	128
Blue Offset	128	Blue Gain	128
Brightness	45	TTX-Bright	100

3. Color Control

Dnie White Balance

Sub-Brightness(PW565)	125	Sub-Contrast	127
Red Offset	129	Red Gain	124
Green Offset	128	Green Gain	128
Blue Offset	131	Blue Gain	113

1. PC Callbration	10. Check sum	0000
2. Option Table 2C34 0050	11. Adjust	
3. Color Control	12. Reset	
4. PW565		
5. VPC3230-MAIN		
6. ADC		
7. DNIe		
8. MDIN-150		
9. Test Pattern		

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4. PW565

Red Gain	140	Pixel Shift	Video Port	YB_1	120
Green Gain	140	Pixel Number	4	YB_2	200
Blue Gain	140	Time	4	Xth_0	110
Red Offset	140	Virtual Framelo	2	Xth_1	190
Green Offset	140	Alpha	255	DECS Demo	Off
Blue Offset	140	Beta	255	Dithering	Off
APL	Off	Degree	30		

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1. PC Callbration	10. Check sum	0000
2. Option Table 2C34 0050	11. Adjust	
3. Color Control	12. Reset	
4. PW565		
5. VPC3290-MAIN		
6. ADC		
7. DNIe		
8. MDIN-150		
9. Test Pattern		

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5. VPC3290-MAIN

CT	2F	CIPCT	2A	KILVL	07
BR	90	PFS	02	PKCOR	01
ACC_SAT	80	PK	01	FB_GAIN	22
TINT	32	VPK	00		
SATCb	24	LPF2	00		
SATCr	2B	CBW2	00		
CIPTNT	21	CBW	03		
CIPBR	C5	IFC	00		

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1. PC Callbration	10. Check sum	0000
2. Option Table 2C34 0050	11. Adjust	
3. Color Control	12. Reset	
4. PW565		
5. VPC3230-MAIN		
6. ADC		
7. DNIe		
8. MDIN-150		
9. Test Pattern		

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6. ADC

Red Gain	8C	Pr Gain	A0
Green Gain	8C	Y Gain	A0
Blue Gain	8C	Pb Gain	A0
Red Offset	80	Pr Offset	43
Green Offset	80	Y Offset	45
Blue Offset	80	Pb Offset	42
Current	05	TTX Phase	768
VCO	02	TTX Contrast	00

1. PC Callbration	10. Check sum	0000
2. Option Table 2C34 0050	11. Adjust	
3. Color Control	12. Reset	
4. PW565		
5. VPC3230-MAIN		
6. ADC		
7. DNIe		
8. MDIN-150		
9. Test Pattern		

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7. DNIe **TV**

Pattern_SEL	0	Y_TH_HPF	4	DCE_Adap_SEL	2
NR_Limit Y	128	Y_TH_EDGE	4	BS_Tilt	80
NR_Limit C	129	DEP_Gain 1_X	3	BS_Gain Max	330
NR_SEL	2	DEP_Gain 1_Y	3	NE_Core	3
SCALEMAX_Y	32	DEP_Gain 2_X	3	NE_RTH 2	3
SCALEMAX_C	32	DEP_Gain 2_Y	3	CTE_H_min	60
SCALEMIN_Y	16	DEP_Scale_R	50	Coring TH3	1
SCALEMIN_C	16	DEP_Sup_Scale THI	3	Coring TH3	32
SCALENOISE_Y	72	DEP_Sup_Scale THF	107	Offset_CR	128
SCALENOISE_C	100	WTE_MCCT_FAC	150	Offset_CB	128

1. PC Calibration	10. Check sum	0000
2. Option Table 2C34 0050	11. Adjust	
3. Color Control	12. Reset	
4. PW565		
5. VPC3230-MAIN		
6. ADC		
7. DNIe		
8. MDIN-150		
9. Test Pattern		

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8. MDIN-150
Front Noise Reduction Filter
Horizontal Peaking Filter
Edge Enhancement Filter
Input Test Pattern
Output Test Pattern
Deinterlace Control

8. MDIN-150
Front Noise Reduction Filter

Noise_Reduction_Flt0	256	Noise_Reduction_Flt_On	0
Noise_Reduction_Flt1	0	Noise_Reduction_Flt_Difference	0
Noise_Reduction_Flt2	0	Median_Flt_On	0
Noise_Reduction_Flt3	0	Median_Flt_Difference	0
Noise_Reduction_Flt4	0	Noise_Reduction_Flt_Diff_Sel	0
Noise_Reduction_Flt5	0		
Noise_Reduction_Flt6	0		
Noise_Reduction_Flt7	0		

8. MDIN-150
Horizontal Peaking Filter

H_Peaking_Flt0	256	H_Peaking_Flt7	0
H_Peaking_Flt1	0	H_Peaking_Flt_Enable	1
H_Peaking_Flt2	896	H_Peaking_Flt_Gain	10
H_Peaking_Flt3	0	H_Peaking_No_Sum	0
H_Peaking_Flt4	0	H_Peaking_Inverse	0
H_Peaking_Flt5	0		
H_Peaking_Flt6	0		

8. MDIN-150
Edge Enhancement Filter

Edge_Cor_Offset	8
Edge_Enh_Level	2
Edge_Enh_2D_Flt_Enable	1

8. MDIN-150
Input Test Pattern

In_Test_RGB	0
In_Test_Ptrn	0
In_Test_Format	0

8. MDIN-150
Output Test Pattern

Out_Test_Ptrn	0
Out_Dark_Scrn_Main	0

8. MDIN-150
Deinterlace Control

Deint_Mode	1	Deint_Edge_En	2	Deint_Film_Min	0
Deint_C_Delay_Sel	0	Deint_Edge_Thres	255	Film_Mode_Thres	5
Median_Tap	0	Film_Invaild_Lines	8	Bad_Edit_En	1
Expander_Tap	1	Film32_Mo_Thres	160	Caption_Mode	3
Deint_Thres	24	Film_Mode	5	D_Caption_V_Posi	160
Fast_Mode	1	D_Film_Slide_Cnt	0	Deint_Disp_Color	5
N_Median_Tap	1	D_Film_Slide_Cor	40	Deint_Disp_Mode	0
D_Fast_Mode_Thres	4	Deint_Film_Plus	1	Motion_Factor	1
N_Deint_Thres	32	Deint_Film_Minus	3		
Very_Fast_En	1	Deint_Film_Max	3		

1. PC Calibration	10. Check sum	0000
2. Option Table	11. Adjust	
3. Color Control	12. Reset	
4. PW565		
5. VPC3230-MAIN		
6. ADC		
7. DNIe		
8. MDIN-150		
9. Test Pattern		

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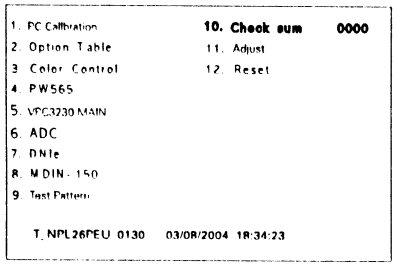
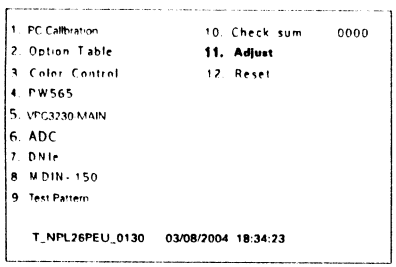
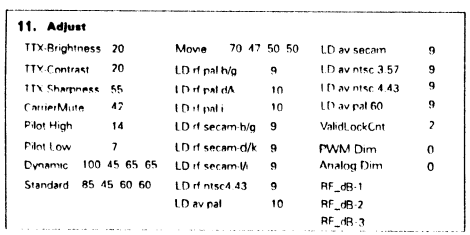
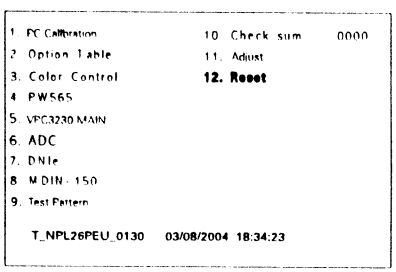
→

9. Test Pattern
1. Luma Ramp (16 Step)
2. Luma Ramp (128 Step)
3. White 16
4. White 240
5. Color Bar
6. RGB Ramp (32 Step)









* Unless otherwise specifid, do not adjust data in Factory Mode.
* Data may be changed for display improvement.

4-3 White Balance Adjustment

1. In factory mode (1, 3, 6), you can adjust the white balance.
2. As the adjustment and data values differ depending on input sources, different adjustments are requried for RF, PC/DVI modes.
3. Optimum condition data for each mode are saved as default values. (Refer to Table 2, 3)
4. As the RF mode is applied with the same vlaues as for VIDEO and S-VIDEO, adjustment can be made in any of RF, VIDEO and S-VIDEO modes.

Table 4-1. White Balance Setting Conditions

Mode	High Light			Low Light		
	x	y	y	x	y	y
RF	285	295	44fL	289	287	1.5fL
PC	275	275	26fL	275	275	0.7fL
DVI-Digital	285	295	44fL	285	295	1fL

Table 4-2. Color Control Default Vlaue <Dnie White Balance>

Mode	RF	DTV	PC	Mode	RF	DTV	PC
Sub-Brightness(PW565)	127	147	141	Sub-Contrast	127	124	113
Red Offset	129	126	125	Red Gain	124	125	128
Green Offset	128	128	128	Green Gain	128	128	128
Blue Offset	131	128	126	Blue Gain	113	116	127

Table 4-3. Color Control Default Vlaue

Mode	PC	Mode	DTV
Red Gain	8C	Pr Gain	A0
Green Gain	8C	Y Gain	A0
Blue Gain	8C	Pb Gain	A0
Red Offset	80	Pr Offset	43
Green Offset	80	Y Offset	45
Blue Offset	80	Pb Offset	42
Current	05	TTX Phase	768
VCO	02	TTX Contrast	00

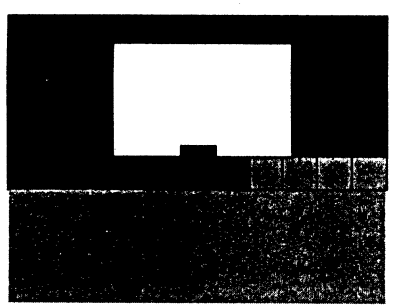
4-3-1 Conditions for Measurement

1. On the basis of toshiba ABL pattern : High Light level (57 IRE)
   - INPUT SIGNAL GENERATOR : MSPG-925LTH
     * Mode NO 2 : 750X480@60 Hz
       NO 6 : 1280X720@60 Hz
       NO 21 : 1024X768@60 Hz
     * Pattern NO 85 : 16 Color Bar Pattern
       NO 16 : Toshiba ABL Pattern
2. Optical measuring device : CA210 (FL)
   Please use the MSPG-925 LTH generator for model LW26A33W.

4-3-2 Method of Adjustment

1. Adjust the basic level of DTV and PC input signals.
   a) Set the input to the mode in which the adjustment will be made (PC).
   * Input signal - PC Mode : Model #21 (1024*768 Mode), Pattern #16 (Picture 4-1)
   b) Enter factory Calibration, confirm the ADC data (PC Mode Only).
   * ADC default value : Table 4-3.

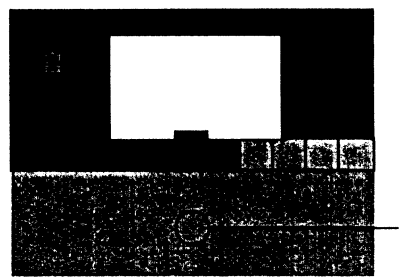
Picture 4-1 Toshiba ABL Pattern



2. Adjust the white balance of RF, DTV and PC Modes.
   a) Set the input to the mode in which the adjustment will be made (RF ⟶ DTV ⟶ PC).
   * Input signal - VIDEO Mode : Model #1 (750*480 Mode), Pattern #16
   - PC Mode : Model #21 (1024*768 Mode), Pattern #16
   b) Enter factory color control, confirm the data.

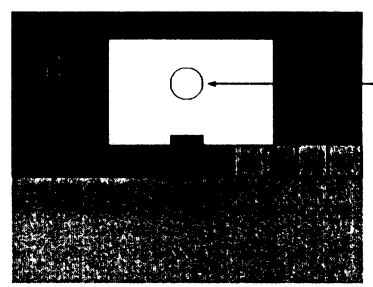
c) Adjust the low light. (Refer to table 1, 2 in adjustment position by mode)
- Adjust sub - Brightness to set the 'Y' value.
- Adjust red offset ('x') and blue offset ('y') to the color coordinates.
* Do not adjust green offset data.

Picture 4-2 Toshiba ABL Pattern



d) Adjust the high light. (Refer to table 1, 2 in adjustment position by mode)
- Adjust red gain ('x') and blue gain ('y') to the color coordinates.
* Do not adjust the green gain and sub-contrast (Y) data.

Picture 4-3 Toshiba ABL Pattern



4-3-3 Option Table

Option Table		2C340028	
Flesh Tone	Off	Area	CW
LNA	Off	Debug Express	Off
Language	English	High Deviation	Off
Melody Volume	5	TXT Group	Osd Language
TTX List	Flop	DNIe Demo	On
TTX TOP	Off	TTX Page	200Page
Auto FM	On	Bus Stop	Off
12C MOFS	0	DDC Write	Off
		EMI	On

* The default settings are most recommended for Option Data. Each data may be adjusted.

4-3-4 PW565

* Below figures are for contrast adjustment of PW565 (IC602). Do not change the data.

Mode	DTV
Red Gain	140
Green Gain	140
Blue Gain	140
Red Offset	140
Green Offset	140
Blue Offset	140

4-3-5 VPC 3230-MAIN

* Data may be adjusted.

Mode	DTV	Mode	DTV
CT	2F	PK	01
BR	90	VPK	00
ACC_SAT	80	LPF2	00
TINT	32	CBW2	00
SATCb	24	CBW	03
SATCr	2B	IFC	00
CIPTNT	20	KILVL	07
CIPBR	C5	PKCOR	01
CIPCT	2A	FB_GAIN	22
PFS	02		

4-3-6 ADC

*Adjust the R(Pr), G(Y), B(Pb) gain and offset to the basic level of DTV and PC Input signals.

Mode	DTV	Mode	DTV
Red Gain	8C →Adjust	Pr Gain	A0 →Adjust
Green Gain	8C →Adjust	Y Gain	A0 →Adjust
Blue Gain	8C →Adjust	Pb Gain	A0 →Adjust
Red Offset	80 →Adjust	Pr Offset	43 →Adjust
Green Offset	80 →Adjust	Y Offset	45 →Adjust
Blue Offset	80 →Adjust	Pb Offset	42 →Adjust
Current	04		
VCO	02		

4-3-7 DNIe

* Control the specify item that a output signals of scalar (PW565).
* This data can be changed without notice.

7. DNIe	TV				
Pattern_SEL	0	Y_TH_HPF	4	DCE_Adap_SEL	2
NR_Limit Y	128	Y_TH_EDGE	4	BS_Tilt	80
NR_Limit C	129	DEP_Gain 1_X	3	BS_Gain Max	330
NR_SEL	2	DEP_Gain 1_Y	3	NE_Core	3
SCALEMAX_Y	32	DEP_Gain 2_X	3	NE_RTH 2	3
SCALEMAX_C	32	DEP_Gain 2_Y	3	CTE_H_min	60
SCALEMIN_Y	16	DEP_Scale_R	50	Coring TH3	1
SCALEMIN_C	16	DEP_Sup_Scale THI	3	Coring TH3	32
SCALENOISE_Y	72	DEP_Sup_Scale THF	107	Offset_CR	128
SCALENOISE_C	100	WTE_MCCT_FAC	150	Offset_CB	128

4-3-8 MDIN-150

* Control the specify item that a output signals (RF, CVBS, S-VHS Modes) of MDIN-150 (IC405).
* This data can be changed without notice.

4-3-9 Test Pattern

* Use below test patters to demonstrate the image display of PW565 (IC602).

1) Luma Ramp (16 step)
2) Luma Ramp (128 Step)
3) White 16
4) White 240
5) Color Bar
6) RGB Ramp (32 Step)

4-3-10 Check sum

* XXXX : Displays the current check sum size of the MICOM.
  (Varies depending on program update)

4-3-11 Reset

* Initializes the data in the MICOM. (Set to default value)
  Use 'Reset' to restore adjustmints made in Factory Mode to the original settings.

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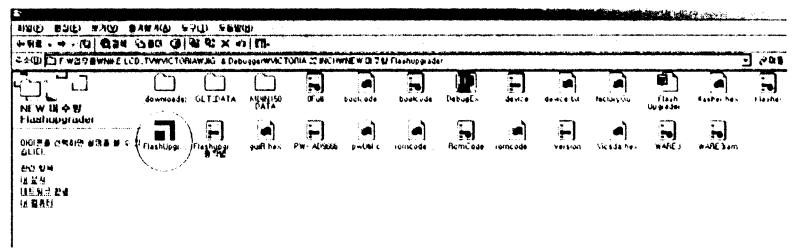
* Displays the MICOM program version

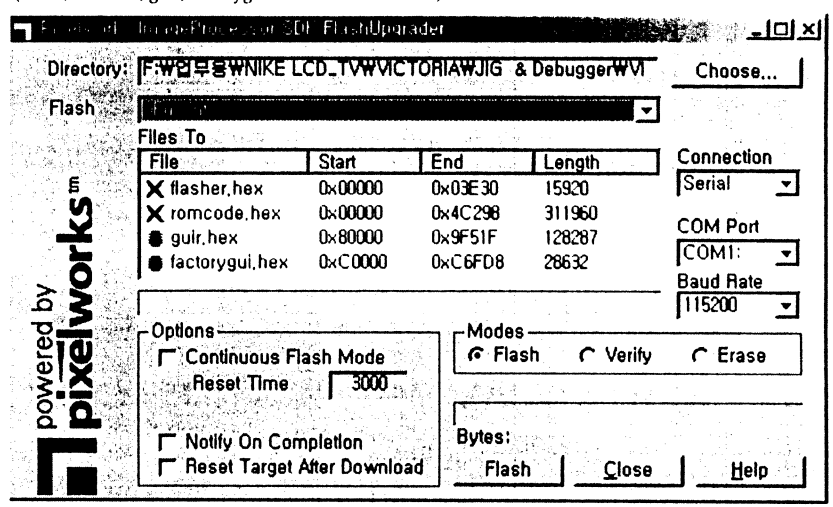
4-4 How to use SW(FlashupgradNT) for LW26A33W Set program update

1. Store program practice file in new folder.
2. Connect Set and Jig Cable to execute Program Update.
(Refer to the Picture 4-4 attachment)
3. After completing the JIG Cable connection, store Update practice program (hex file 3EA) in new folder.
(guiR, romcode, factoryGui).
4. Click FlashupgradNT.exe icon 2 times and execute it.
(Upgrader OSD screen is marked)



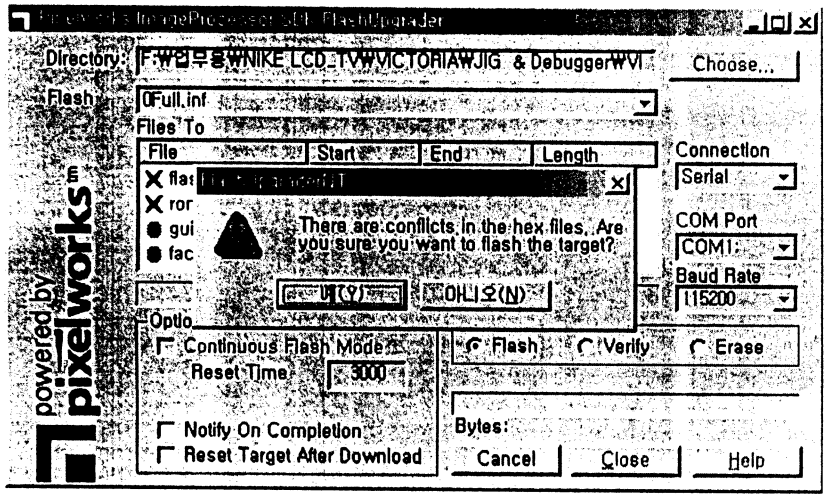
Picture 4-4

5. Select OFull.inf in Flash.
(flaher, romcode, guir, factorygui items look in Files To)



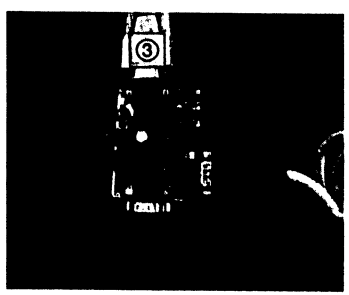
Picture 4-5

6. Click the "Flash" that is under right of OSD screen.
(if warning message comes out, Click the "Yes"(Y).)



Picture 4-6

7. After acting No.6, extract Set's Power Cable and connect it again.
8. During acting No.7, program Update sledding is marked sequentially on OSD screen.
9. After Program Update completion, act NO.7 again.
10. Program Update is completed.



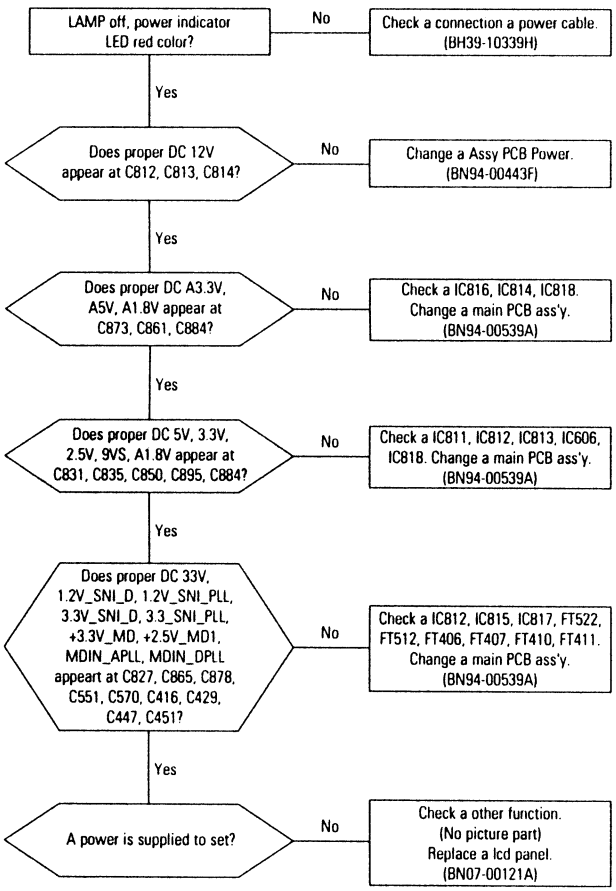
Picture 4-7

<Attachment Picture 4-7 : JIG Cable Connection Explain>
1. Connect with PC Pattern Generator's output.
(Connect only when you want to see PC screen.)
2. Connect with JIG Output (15 pins) and PC Input (PC/DVI 24 pins) terminal.
3. Connect with COM Port1 of PC (9 Pins).
4. Connect 14V 4.5A Adaptor Cable.

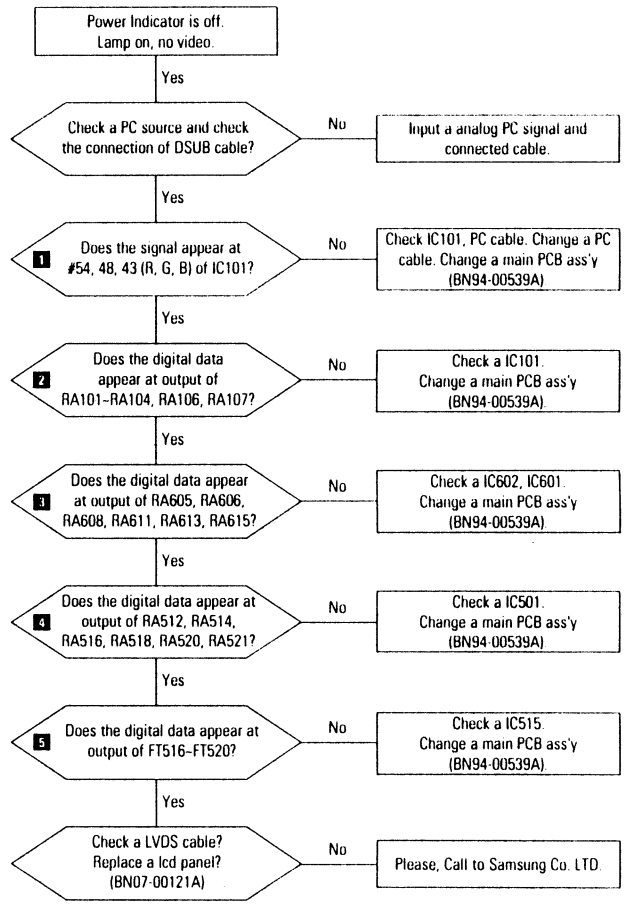
Memo

5 Troubleshooting

5-1 No Power

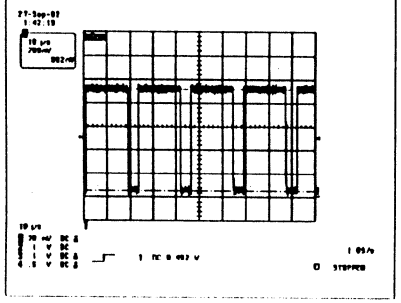

LAMP off, power indicator LED red color?
No
Check a connection a power cable. (BH39-10339H)
Yes
Does proper DC 12V appear at C812, C813, C814?
No
Change a Assy PCB Power. (BN94-00443F)
Yes
Does proper DC A3.3V, A5V, A1.8V appear at C873, C861, C884?
No
Check a IC816, IC814, IC818. Change a main PCB ass'y. (BN94-00539A)
Yes
Does proper DC 5V, 3.3V, 2.5V, 9VS, A1.8V appear at C831, C835, C850, C895, C884?
No
Check a IC811, IC812, IC813, IC606, IC818. Change a main PCB ass'y. (BN94-00539A)
Yes
Does proper DC 33V, 1.2V_SNI_D, 1.2V_SNI_PLL, 3.3V_SNI_D, 3.3_SNI_PLL, +3.3V_MD, +2.5V_MD1, MDIN_APLL, MDIN_DPLL appeart at C827, C865, C878, C551, C570, C416, C429, C447, C451?
No
Check a IC812, IC815, IC817, FT522, FT512, FT406, FT407, FT410, FT411. Change a main PCB ass'y. (BN94-00539A)
Yes
A power is supplied to set?
No
Check a other function. (No picture part) Replace a lcd panel. (BN07-00121A)

5-2 No Video (Analog PC Signal)

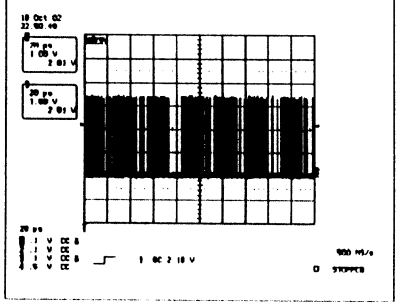

Power Indicator is off. Lamp on, no video.
Yes
Check a PC source and check the connection of DSUB cable?
No
Input a analog PC signal and connected cable.
Yes
1 Does the signal appear at #54, 48, 43 (R, G, B) of IC101?
No
Check IC101, PC cable. Change a PC cable. Change a main PCB ass'y (BN94-00539A)
Yes
2 Does the digital data appear at output of RA101-RA104, RA106, RA107?
No
Check a IC101. Change a main PCB ass'y (BN94-00539A)
Yes
3 Does the digital data appear at output of RA605, RA606, RA608, RA611, RA613, RA615?
No
Check a IC602, IC601. Change a main PCB ass'y (BN94-00539A)
Yes
4 Does the digital data appear at output of RA512, RA514, RA516, RA518, RA520, RA521?
No
Check a IC501. Change a main PCB ass'y (BN94-00539A)
Yes
5 Does the digital data appear at output of FT516-FT520?
No
Check a IC515. Change a main PCB ass'y (BN94-00539A)
Yes
Check a LVDS cable? Replace a lcd panel? (BN07-00121A)
No
Please, Call to Samsung Co. LTD.

WAVEFORMS

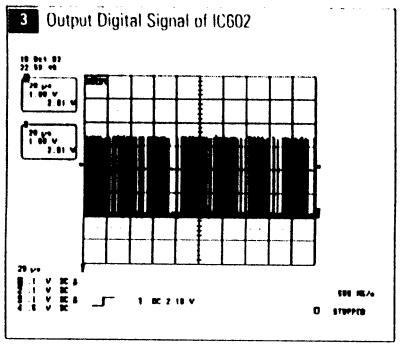
1 R,G,B Output Signal (#54, 48, 43) Of IC101



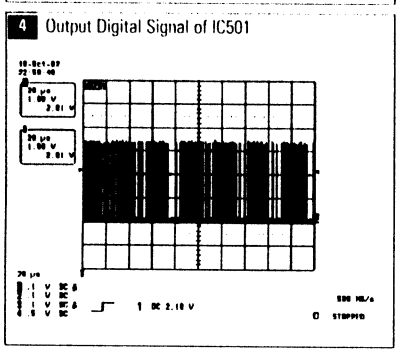
2 R,G,B Output Signal Of IC101



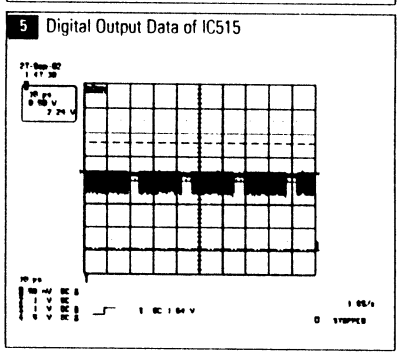
3 Output Digital Signal of IC602



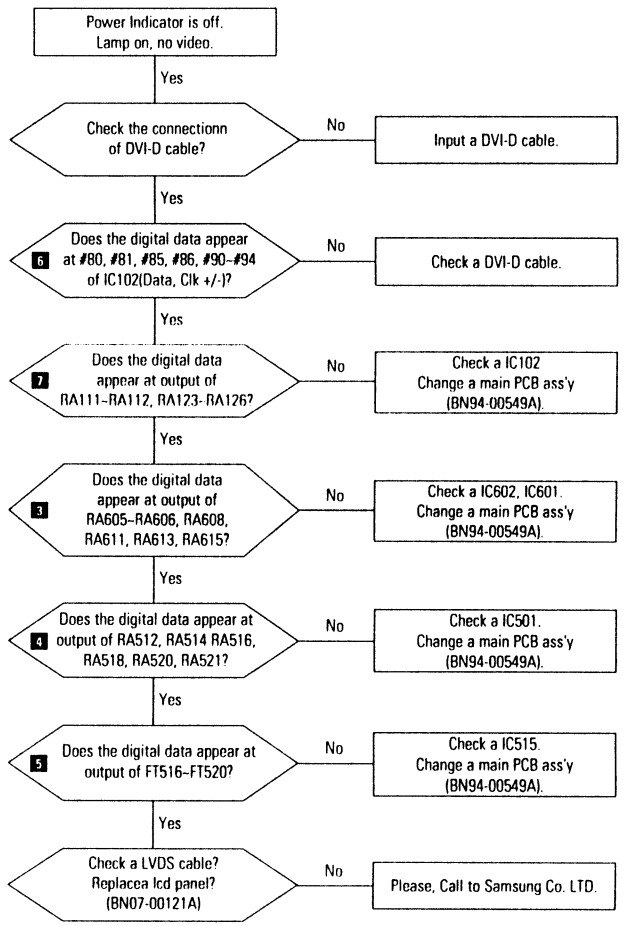
4 Output Digital Signal of IC501



5 Digital Output Data of IC515

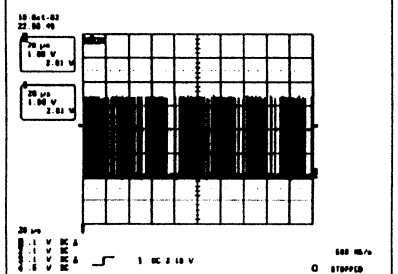


5-3 No Video (DVI-Digital Signal)

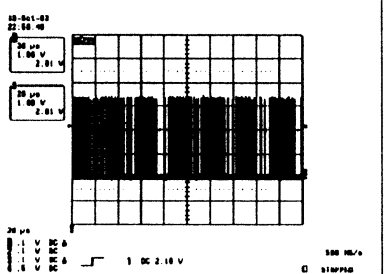

Power Indicator is off.
Lamp on, no video.
Yes
Check the connectionn of DVI-D cable?
No
Input a DVI-D cable.
Yes
6 Does the digital data appear at #80, #81, #85, #86, #90~#94 of IC102(Data, Clk +/-)?
No
Check a DVI-D cable.
Yes
7 Does the digital data appear at output of RA111~RA112, RA123~RA126?
No
Check a IC102
Change a main PCB ass'y (BN94-00549A).
Yes
3 Does the digital data appear at output of RA605~RA606, RA608, RA611, RA613, RA615?
No
Check a IC602, IC601.
Change a main PCB ass'y (BN94-00549A).
Yes
4 Does the digital data appear at output of RA512, RA514 RA516, RA518, RA520, RA521?
No
Check a IC501.
Change a main PCB ass'y (BN94-00549A).
Yes
5 Does the digital data appear at output of FT516~FT520?
No
Check a IC515.
Change a main PCB ass'y (BN94-00549A).
Yes
Check a LVDS cable?
Replacea lcd panel?
(BN07-00121A)
No
Please, Call to Samsung Co. LTD.

WAVEFORMS

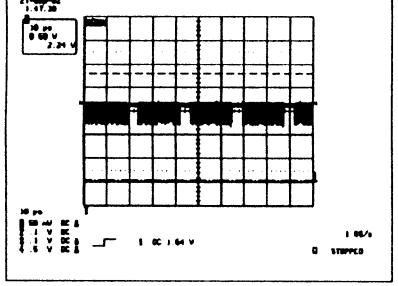
3 Output Digital Signal of IC602



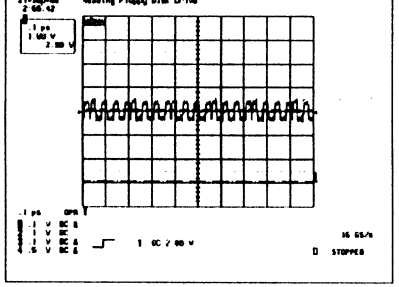
4 Output Digital Signal of I501



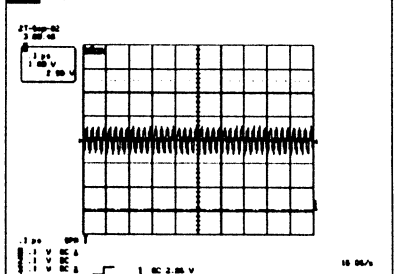
5 Digital Output Data of IC515



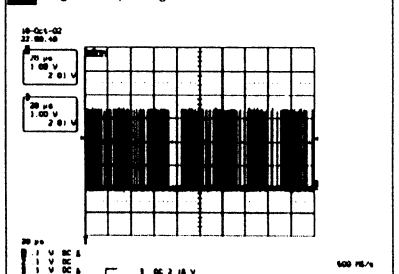
6 Signal of DVI_RX 0~2 (Data)



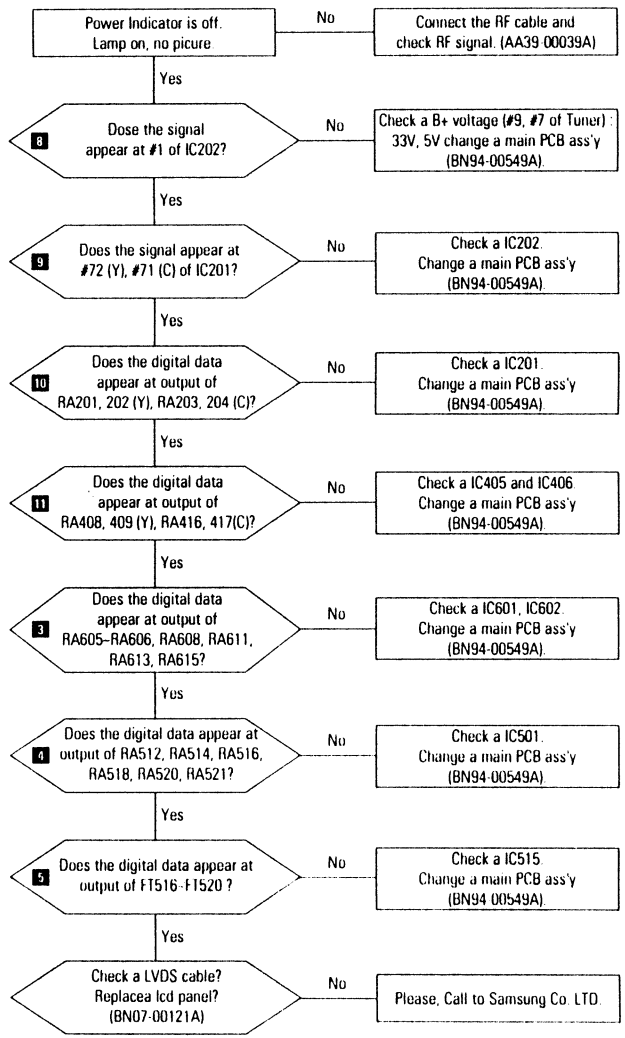
6-1 Signal of DVI_RXC (CLK)



7 Digital Output Signal Of IC102

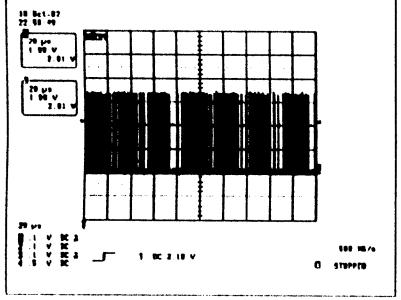


5-4 No Picture (Tuner_CVBS)

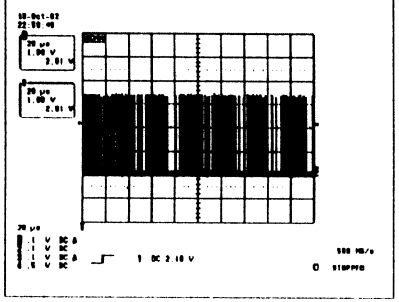

Power Indicator is off.
Lamp on, no picure
No
Connect the RF cable and check RF signal. (AA39-00039A)
Yes
8 Dose the signal appear at #1 of IC202?
No
Check a B+ voltage (#9, #7 of Tuner) : 33V, 5V change a main PCB ass'y (BN94-00549A)
Yes
9 Does the signal appear at #72 (Y), #71 (C) of IC201?
No
Check a IC202. Change a main PCB ass'y (BN94-00549A)
Yes
10 Does the digital data appear at output of RA201, 202 (Y), RA203, 204 (C)?
No
Check a IC201. Change a main PCB ass'y (BN94-00549A)
Yes
11 Does the digital data appear at output of RA408, 409 (Y), RA416, 417(C)?
No
Check a IC405 and IC406. Change a main PCB ass'y (BN94-00549A)
Yes
3 Does the digital data appear at output of RA605~RA606, RA608, RA611, RA613, RA615?
No
Check a IC601, IC602. Change a main PCB ass'y (BN94-00549A)
Yes
4 Does the digital data appear at output of RA512, RA514, RA516, RA518, RA520, RA521?
No
Check a IC501. Change a main PCB ass'y (BN94-00549A)
Yes
5 Does the digital data appear at output of FT516~FT520 ?
No
Check a IC515. Change a main PCB ass'y (BN94-00549A)
Yes
Check a LVDS cable? Replacea lcd panel? (BN07-00121A)
No
Please, Call to Samsung Co. LTD.

WAVEFORMS

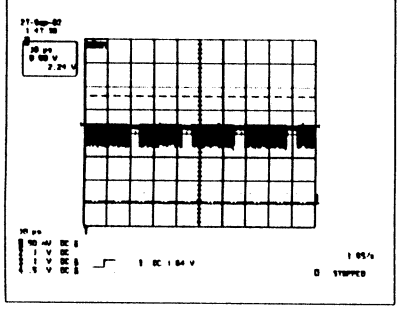
3 Output Digital Signal of IC602



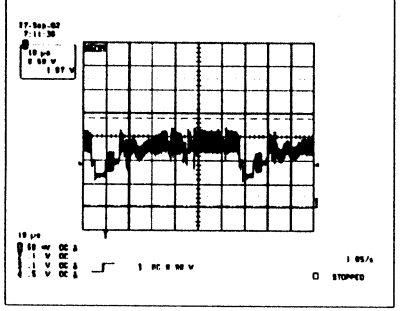
4 Output Digital Signal of IC501



5 Digital Output Data of IC515

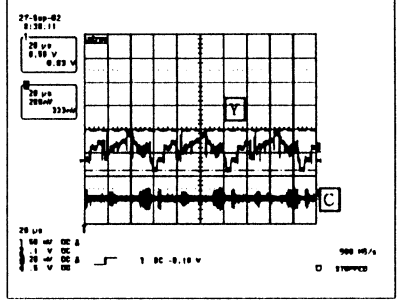


8 Tuner_CVBS Output Signal

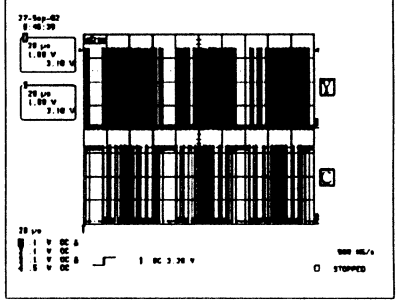


WAVEFORMS

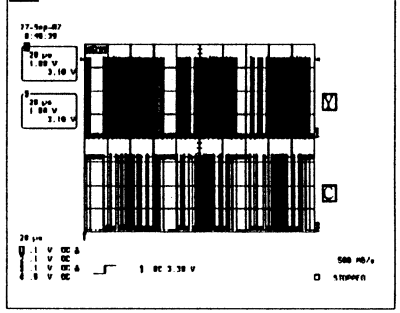
9 Analog Signal (Y,C) to IC201



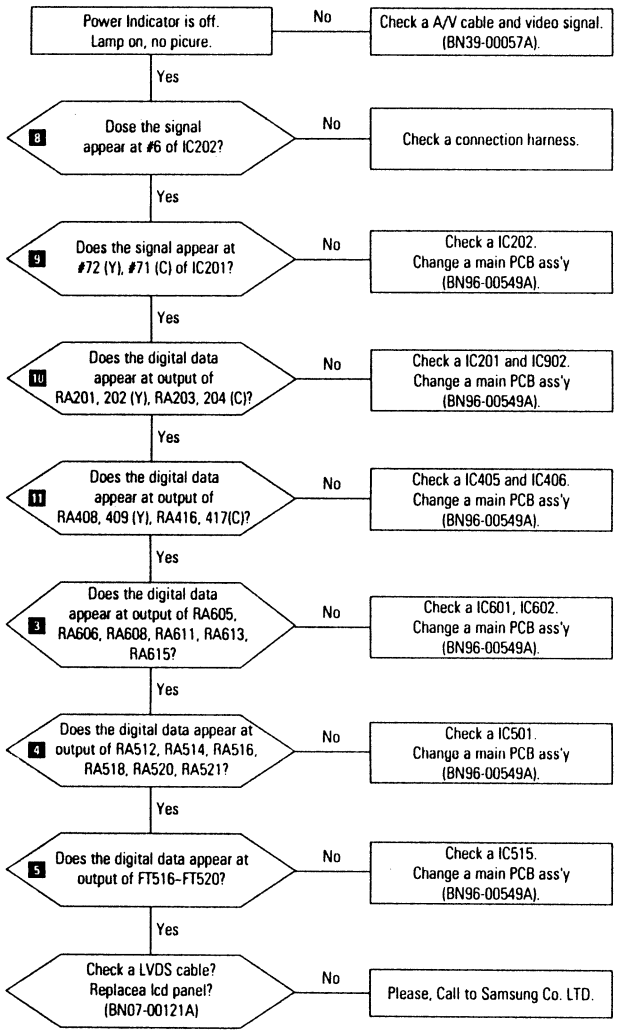
10 3230 Y,C_OUT (0:7) Data



11 Digital Output Y,C_OUT (0:7) Data Of IC405

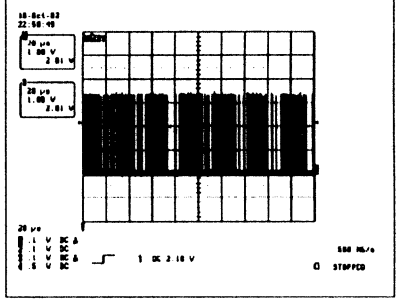


5-5 No Picture (Video_CVBS)

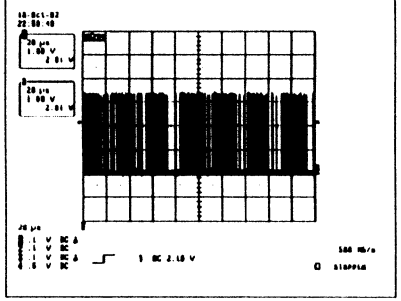


WAVEFORMS

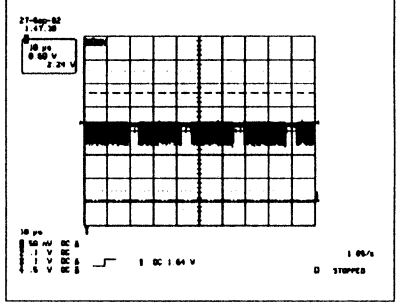
3 Output Digital Signal of IC602



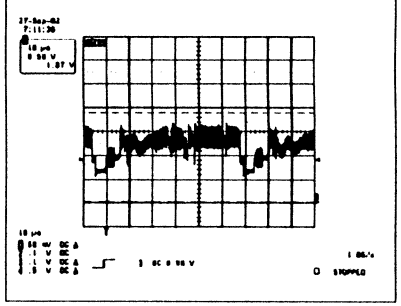
4 Output Digital Signal of IC501



5 Digital Output Data of IC515

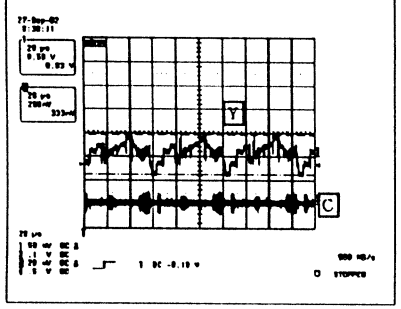


8 Tuner_CVBS Output Signal

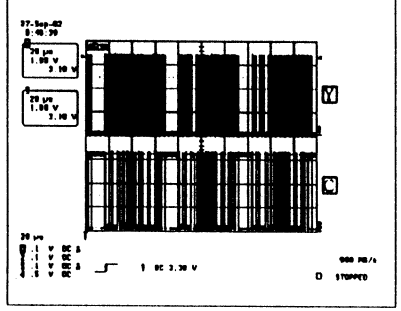


WAVEFORMS

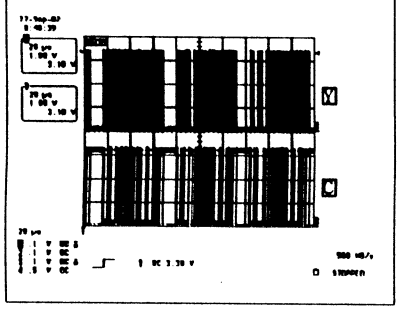
9 Analog Signal (Y,C) to IC201



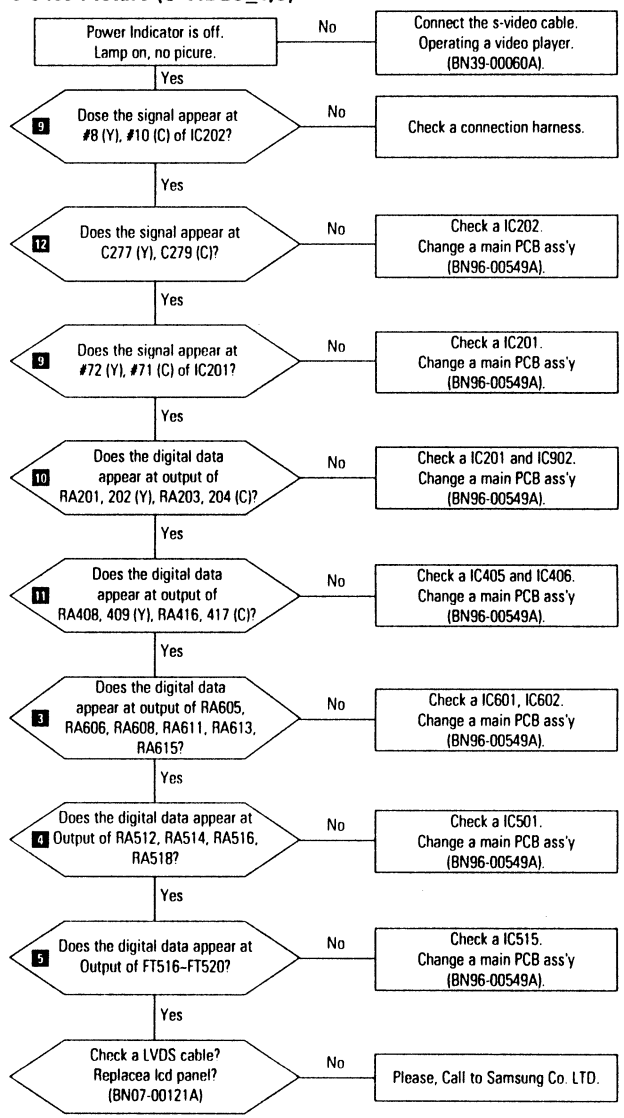
10 3230 Y,C_OUT (0:7) Data



11 Digital Output Y,C_OUT (0:7) Data Of IC405

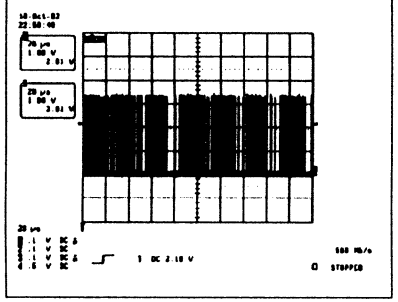


5-6 No Picture (S-VIDEO_Y,C)

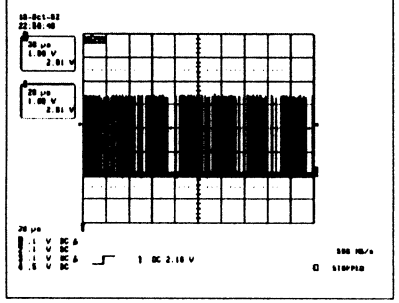

Power Indicator is off. Lamp on, no picure.
No
Connect the s-video cable. Operating a video player. (BN39-00060A).
Yes
9 Dose the signal appear at #8 (Y), #10 (C) of IC202?
No
Check a connection harness.
Yes
12 Does the signal appear at C277 (Y), C279 (C)?
No
Check a IC202. Change a main PCB ass'y (BN96-00549A).
Yes
9 Does the signal appear at #72 (Y), #71 (C) of IC201?
No
Check a IC201. Change a main PCB ass'y (BN96-00549A).
Yes
10 Does the digital data appear at output of RA201, 202 (Y), RA203, 204 (C)?
No
Check a IC201 and IC902. Change a main PCB ass'y (BN96-00549A).
Yes
11 Does the digital data appear at output of RA408, 409 (Y), RA416, 417 (C)?
No
Check a IC405 and IC406. Change a main PCB ass'y (BN96-00549A).
Yes
3 Does the digital data appear at output of RA605, RA606, RA608, RA611, RA613, RA615?
No
Check a IC601, IC602. Change a main PCB ass'y (BN96-00549A).
Yes
4 Does the digital data appear at Output of RA512, RA514, RA516, RA518?
No
Check a IC501. Change a main PCB ass'y (BN96-00549A).
Yes
5 Does the digital data appear at Output of FT516-FT520?
No
Check a IC515. Change a main PCB ass'y (BN96-00549A).
Yes
Check a LVDS cable? Replacea lcd panel? (BN07-00121A)
No
Please, Call to Samsung Co. LTD.

WAVEFORMS

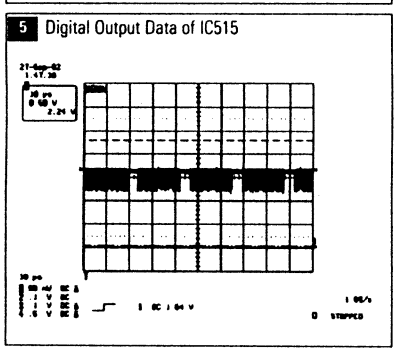
3 Output Digital Signal of IC602



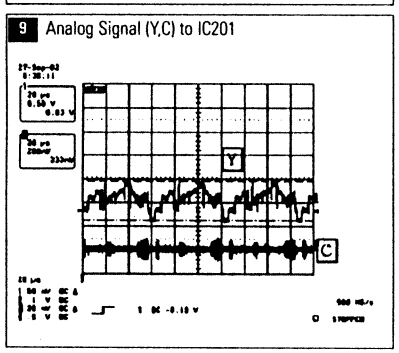
4 Output Digital Signal of IC501



5 Digital Output Data of IC515

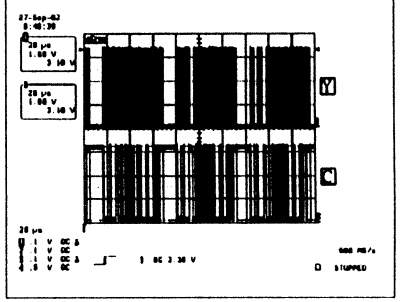


9 Analog Signal (Y,C) to IC201

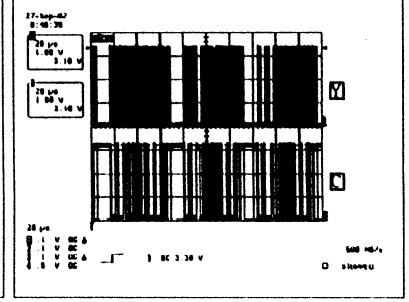


WAVEFORMS

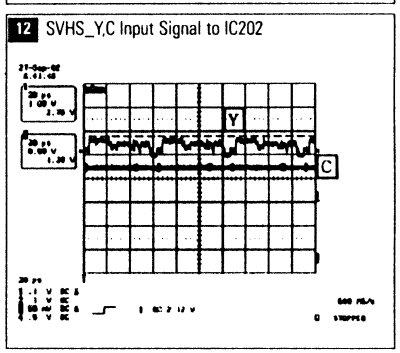
10 3230 Y,C_OUT (0:7) Data



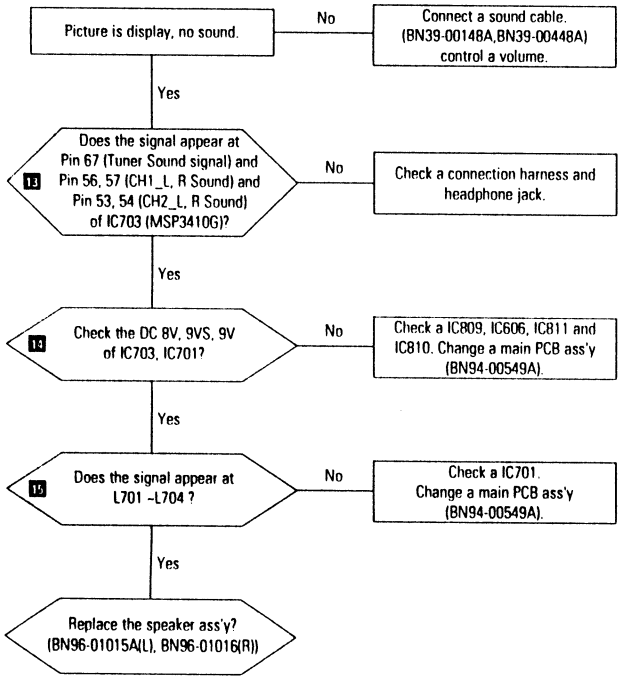
11 Digital Output Y,C_OUT (0:7) Data Of IC405



12 SVHS_Y,C Input Signal to IC202

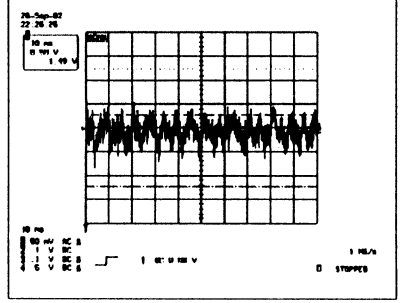


5-7 No Sound

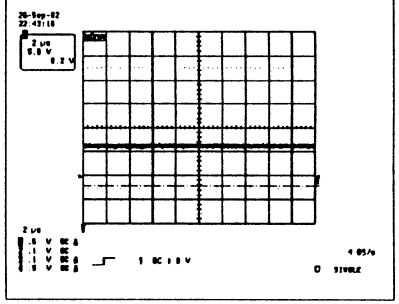

Picture is display, no sound.
No
Connect a sound cable. (BN39-00148A,BN39-00448A) control a volume.
Yes
13
Does the signal appear at Pin 67 (Tuner Sound signal) and Pin 56, 57 (CH1_L, R Sound) and Pin 53, 54 (CH2_L, R Sound) of IC703 (MSP3410G)?
No
Check a connection harness and headphone jack.
Yes
14
Check the DC 8V, 9VS, 9V of IC703, IC701?
No
Check a IC809, IC606, IC811 and IC810. Change a main PCB ass'y (BN94-00549A).
Yes
15
Does the signal appear at L701 ~L704 ?
No
Check a IC701. Change a main PCB ass'y (BN94-00549A).
Yes
Replace the speaker ass'y? (BN96-01015A(L), BN96-01016(R))

WAVEFORMS

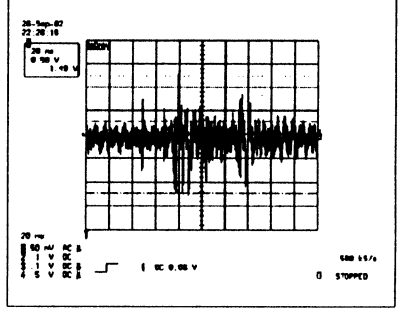
13 The Signal are Inputed to IC703



14 DC +8V

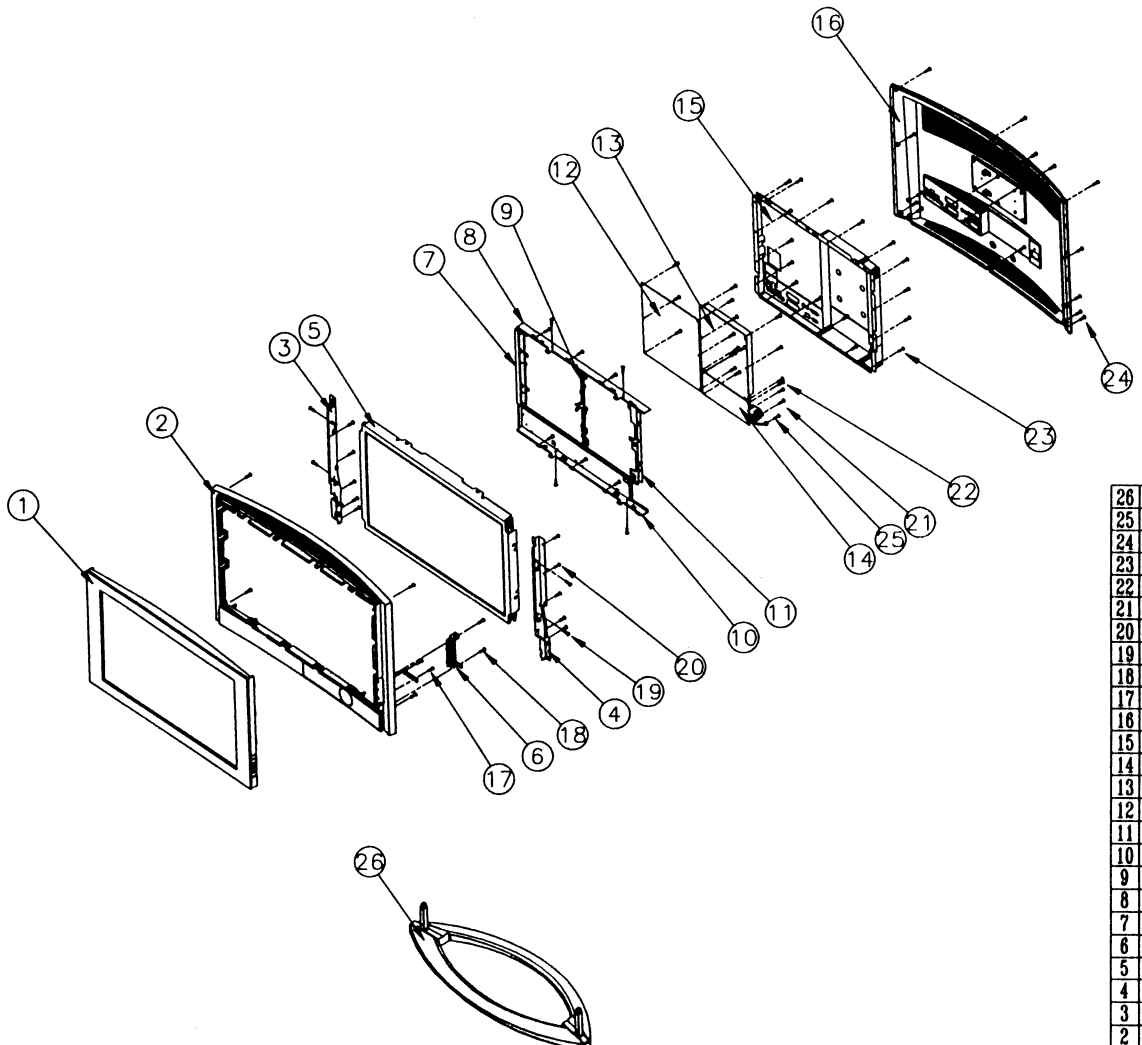


15 Output WaveForm



6 Exploded View and Parts List

* You can search for updated part codes through ITSELF web site.
URL : http://itself.sec.samsung.co.kr/



NO	PART NAME	CODE NO	Q'TY	SPEC.	REMARK
26	UNIT,STAND	BN96-01128A	1	ABS HB GR503 SPRAY	SA
25	SCREW-MACHINE	6006-000245	1	WSP,+,PH,M4,L8,ZPC(YEL)	SA
24	SCREW-TAPTITE	6003-001323	14	BH,+,B,M4,L12,NI PLT	SA
23	SCREW-TAPTITE	6003-000117	16	BH,+,B,M3,L6,ZPC(YEL)	SA
22	SCREW-TAPTITE	6003-000256	2	BWH,+,B,M3,L10(YEL)	SA
21	SCREW-TAPTITE	6003-000117	15	BH,+,B,M3,L6,ZPC(YEL)	SA
20	SCREW-TAPTITE	6002-000514	16	BH,+,2,M4,L15,ZPC(BLK)	SA
19	SCREW-MACHINE	6001-000157	8	BH,+,M4,L8,ZPC(YEL)	SA
18	SCREW-TAPTITE	6003-000122	6	BH,+,B,M4,L12,ZPC(YEL)	SA
17	SCREW-TAPTITE	6003-000276	2	BH,+,B,M3,L10(BLK)	SA
16	UNIT,C/REAR	BN96-01127A	1	ABS HB GR503 SPRAY	SA
15	UNIT,SHIELD/PCB	BN96-01129A	1	SECC T0.5	SNA
14	POWER SUB BOARD	-	1	NP26**	SNA
13	POWER BOARD	-	1	NP26**	SA
12	MAIN BOARD	-	1	NP26**	SA
11	BRKT-POWER/SUB	BN61-01152A	1	SECC T1.2	SNA
10	BRKT-BOTTOM	BN61-01149A	1	SECC T1.2	SNA
9	BRKT-POWER	BN61-01151A	1	SECC T1.2	SNA
8	BRKT-TOP	BN61-01148A	1	SECC T1.2	SNA
7	BRKT-MAIN	BN61-01150A	1	SECC T1.2	SNA
6	UNIT,K/FUNCTION	BN96-01186A	1	NP26**	SNA
5	26" PANEL	-	1	26" PANEL	SA
4	UNIT,B/SIDE-R	BN96-01179A	1	SECC T1.6	SNA
3	UNIT,B/SIDE-L	BN96-01180A	1	SECC T1.6	SNA
2	UNIT,C/MIDDLE	BN96-01126A	1	ABS HB GR503 SPRAY	SNA
1	UNIT,C/FRONT	BN96-01125A	1	ABS HB GR503 SPRAY	SA

7 Parts List

* You can search for updated part codes through ITSELF web site.
URL : http://itself.sec.samsung.co.kr/

7-1 Part Lists

Description	Code No.
ASSY PCB MAIN	BN94 - 00539N
ASSY COVER FRONT	BN90 - 00640R
ASSY COVER REAR	BN90 - 00641J
LCD-PANEL	BN07 - 00121A
ASSY CHASSIS	BN91 - 00784Z
ASSY SHIELD	BN91 - 00785K
ASSY BOX	BN92 - 01043H
ASSY LABEL	BN92 - 01044C
REMOCON	BN59 - 00412A
ASSY ACCESSORY	BN92 - 01042E
ASSY ACCESSORY	BN92 - 00702H
ASSY PCB POWER_CH	BN94 - 00443F
ASSY PCB POWER_SUB PCB	BN94 - 00444N

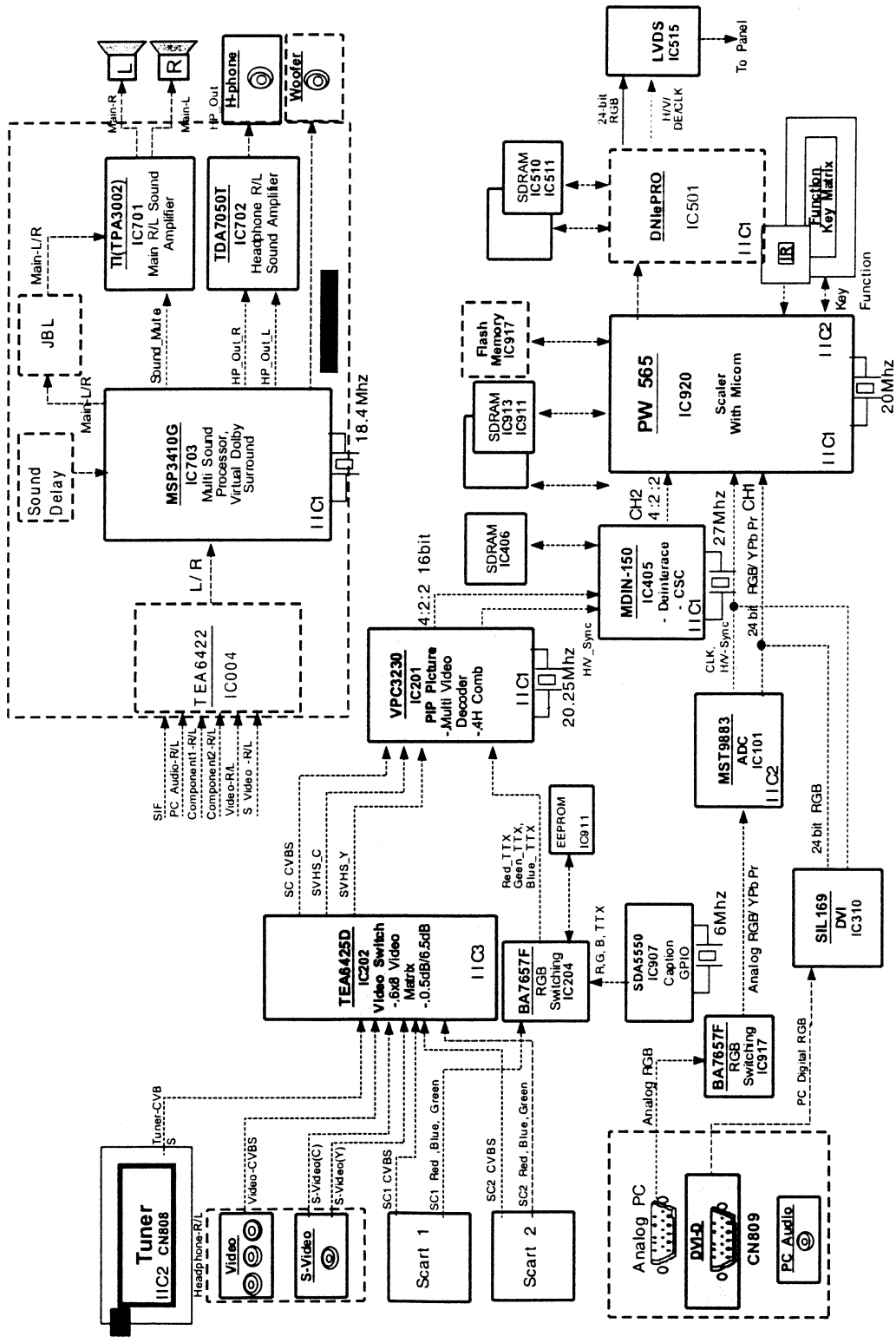
<OPTION PART LIST>	
IF Cable	AA39-00039A
A/V Cable	BN39-00057A
S-Video Cable	BN39-00060A
SOUND Cable(R, L)	BN39-00148A
DVI(D) Cable	BN39-00246F
DVI AUDIO Cable	BN81-00120A
STEREO Cable	BN39-00448A
DSUB Cable	BN39-00244B

Memo

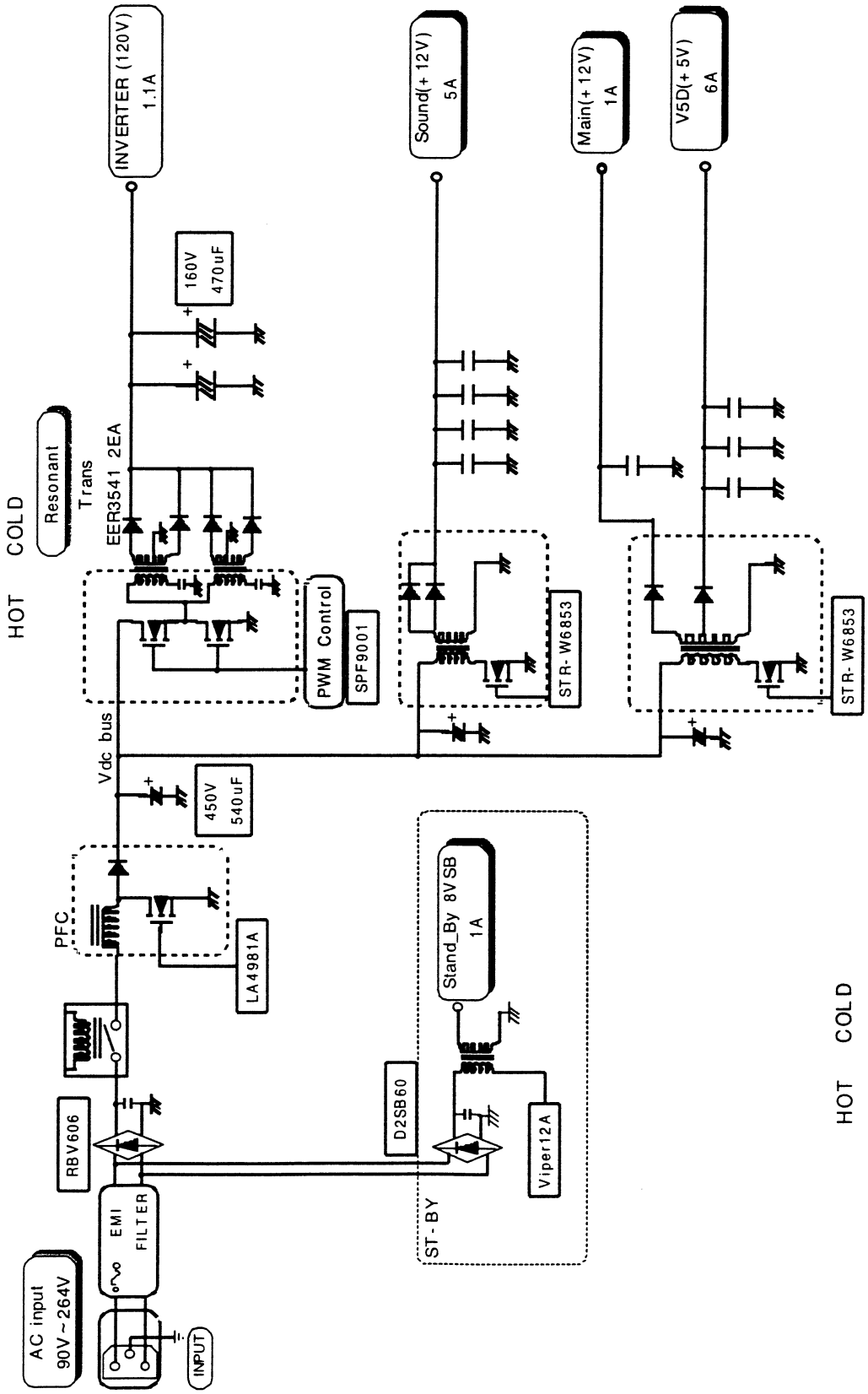
8 Block Diagram

※ This Document can not be used without Samsung's authorization.

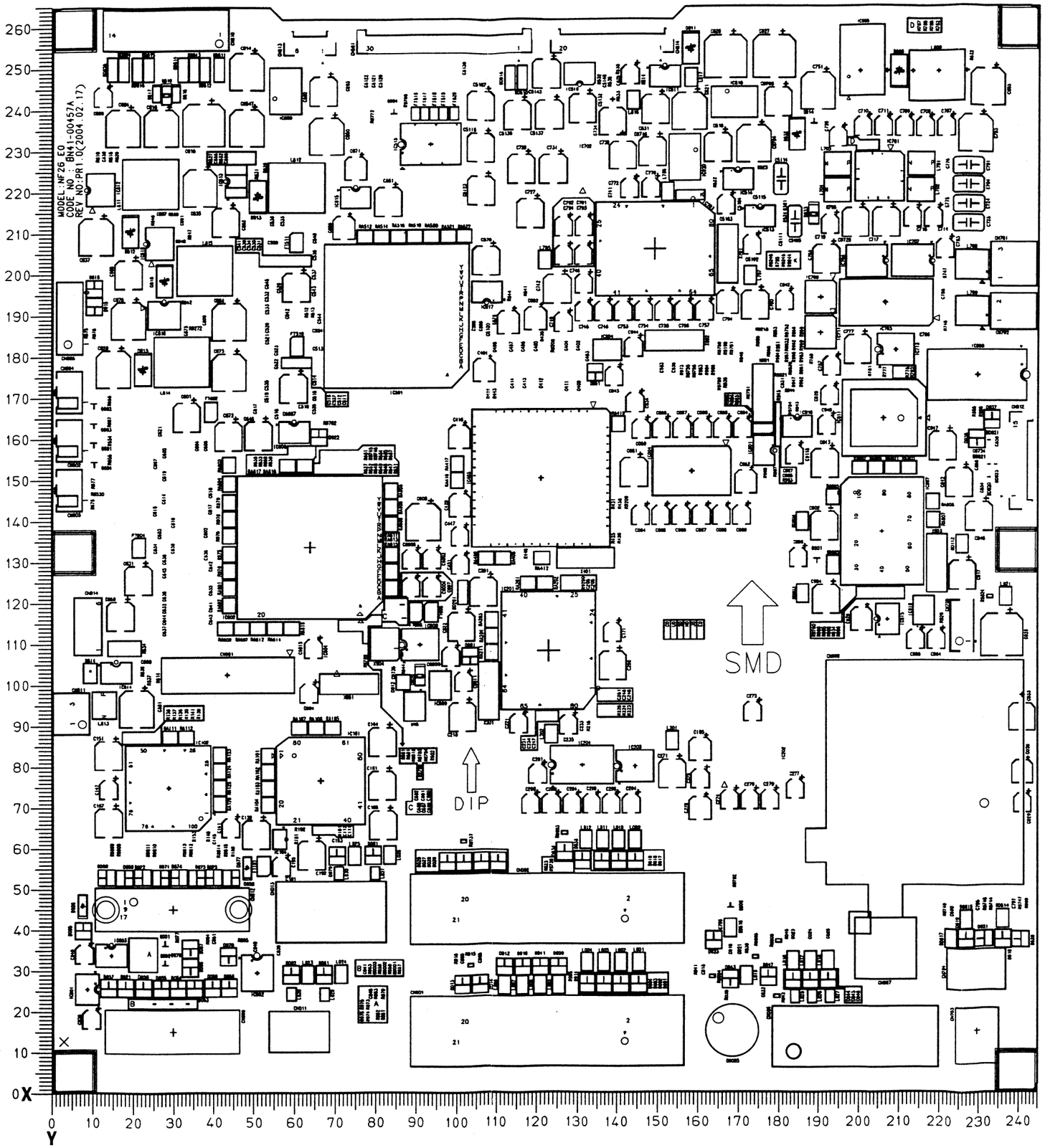
8-1 Main Block diagram



8-2 Power Block diagram



10-1 Main PCB Layout



CN009			
1	PC_RED		
2	PC_GREEN		
3	PC_BLUE		
4	GND		
5	GND		
6	GND		
7	GND		
8	GND		
9	PC_5V		
10	IDENT_PC		
11	GND		
12	PC_SDA		
13	DSUB_H		
14	DSUB_V		
15	PC_SCL		

CN011	
1	GND
2	PC_Audio_R
3	PC_Audio_L
4	PC_Audio_L
5	PC_Audio_R
6	NC

CN001	
1	SC1 RED OUT
2	SC1 RED IN
3	SC1 LEFT OUT
4	GND
5	GND
6	SC1 LEFT IN
7	SC1 BLUE
8	SC1 SWIT CHING
9	GND
10	N/C
11	SC1 GREEN
12	N/C
13	GND
14	GND
15	SC1 RED
16	GND
17	SC1 FAST BLANKING
18	GND
19	SC1 CVBS OUT
20	SC1 CVBS IN
21	GND

CN005	
1	S_Video_C
2	S_Video_Y
3	GND
4	GND
5	GND
6	NC

CN703	
1	GND
2	Sub_Woofer_Audio
3	Sub_Woofer_Audio

CN013	
1	GND
2	Audio_R
3	Audio_R
4	GND
5	Audio_L
6	Audio_L

CN002	
1	SC2 RED OUT
2	SC2 RED IN
3	SC2 LEFT OUT
4	GND
5	GND
6	SC2 LEFT IN
7	N/C
8	SC2 SWIT CHING
9	GND
10	N/C
11	N/C
12	N/C
13	GND
14	GND
15	N/C
16	N/C
17	GND
18	GND
19	SC2 CVBS OUT
20	SC2 CVBS IN
21	GND

CN006	
1	GND
2	Video_CVBS
3	Video_CVBS
4	GND
5	Audio_L
6	Audio_L
7	GND
8	Audio_R
9	Audio_R

CN704	
1	GND
2	HP_Audio_R
3	HP_Audio_L
4	HP_Audio_L
5	HP_Audio_R
6	Ident_HP

CN012			
1	TMDS Data 2-	13	TMDS Data 3+
2	TMDS Data 2+	14	+5V Power
3	TMDS Data 2/4 Shield	15	GND (for +5V)
4	TMDS Data 4-	16	Hot Plug Detect
5	TMDS Data 4+	17	TMDS Data 0-
6	DDC CLOCK	18	TMDS Data 0+
7	DDC Data	19	TMDS Data 0/5 Shield
8	NC	20	TMDS Data 5-
9	TMDS Data 1-	21	TMDS Data 5+
10	TMDS Data 1+	22	TMDS Data Clock Shield
11	TMDS Data 1/3 Shield	23	TMDS Data Clock Shield +
12	TMDS Data 3-	24	TMDS Data Clock Shield -

CN811	
1	ABV
2	ABV
3	SW_SMPS

CN810			
1	12V	2	GND
3	5V	4	5V
5	5V	6	GND
7	GND	8	12VS
9	12VS	10	12VS
11	12VS	12	GND
13	GND	14	GND

CN501			
1	GND	2	VCC5I
3	VCC5P	4	VCC5P
5	VCC5P	6	VCC5P
7	GND	8	GND
9	GND	10	NC
11	NC	12	PANEL_SYNC_EN
13	GND	14	TXOUT3+
15	TXOUT3-	16	GND
17	TXCLKOUT1+	18	TXCLKOUT1-
19	GND	20	TXCLKOUT2+
21	TXCLKOUT2-	22	GND
23	TXCLKOUT1+	24	TXCLKOUT1-
25	GND	26	TXCLKOUT0+
27	TXCLKOUT0-	28	SW_INVETIER
29	ANA_DIMMING	30	DWM_DIMMING

CN008	
1	Tuner

CN812	
1	A5V
2	GND
3	A5V
4	NC
5	Key_Input1
6	Key_Input2
7	GND
8	NC
9	IR
10	NC
11	A3.3V
12	A3.3V
13	GND
14	SDA2
15	SCL2

CN702	
1	SPKOUT L+
2	SPKOUT L-

CN701	
1	SPKOUT R+
2	NC
3	SPKOUT R-

DIODE

Loc. No.	Description	X	Y
D001	DIODE-ZENER	14.2	26.5
D002	DIODE-ZENER	13.8.0	26.5
D003	DIODE-ZENER	13.0.8	26.5
D004	DIODE-ZENER	12.9.6	26.5
D005	DIODE-ZENER	14.2.3	26.5
D006	DIODE-ZENER	13.8.0	26.5
D007	DIODE-ZENER	13.3.2	26.5
D008	DIODE-ZENER	12.9.6	26.5
D009	DIODE-SWITCHING	12.2.6	30.8
D010	DIODE-SWITCHING	11.4.0	30.8
D011	DIODE-SWITCHING	11.8.3	30.8
D012	DIODE-SWITCHING	10.9.6	30.8
D013	DIODE-SWITCHING	10.0.6	28.4
D014	DIODE-ZENER	10.0.6	28.4
D015	DIODE-SWITCHING	10.0.6	28.4
D016	DIODE-ZENER	99.3	26.4
D017	DIODE-ZENER	14.1.4	56.7
D018	DIODE-SWITCHING	13.7.4	56.7
D019	DIODE-ZENER	13.3.2	56.7
D020	DIODE-ZENER	14.1.4	56.7
D021	DIODE-ZENER	13.7.4	56.7
D022	DIODE-ZENER	13.3.2	56.7
D023	DIODE-ZENER	13.7.4	56.7
D024	DIODE-ZENER	13.3.2	56.7
D025	DIODE-ZENER	12.9.0	56.7
D026	DIODE-ZENER	10.8.0	56.5
D027	DIODE-ZENER	99.6	56.5
D028	DIODE-ZENER	10.9.8	56.5
D029	DIODE-ZENER	95.5	56.5
D030	DIODE-ZENER	12.8.3	56.8
D034	DIODE-ZENER	12.4.0	56.8
D043	DIODE-ZENER	15.4.5	27.7
D044	DIODE-ZENER	17.9.8	27.4
D045	DIODE-ZENER	18.4.1	27.4
D046	DIODE-ZENER	18.8.4	27.4
D047	DIODE-ZENER	17.3.7	28.1
D048	DIODE-ZENER	17.9.8	27.4
D049	DIODE-ZENER	18.4.1	27.4
D051	DIODE-ZENER	18.8.4	27.4
D052	DIODE-ARRAY	7.7	25.6
D053	DIODE-SWITCHING	30.4.3	25.7
D054	DIODE-SWITCHING	30.2	25.7
D055	DIODE-SWITCHING	26.1	25.7

D056	DIODE-ZENER	21.8	25.6
D057	DIODE-ZENER	13.4	25.6
D058	DIODE-ZENER	42.8	25.7
D059	DIODE-ZENER	38.7	25.7
D061	DIODE-ZENER	65.7	28.9
D062	DIODE-ZENER	57.8	28.9
D063	DIODE-ZENER	57.8	28.9
D064	DIODE-ZENER	65.7	28.9
D065	DIODE-ARRAY	7.3	39.8
D066	DIODE-ZENER	33.3	30.9
D067	DIODE-ZENER	33.3	35.5
D069	DIODE-SWITCHING	12.9	52.8
D068	DIODE-SWITCHING	12.3	52.8
D071	DIODE-SWITCHING	26.0	52.8
D072	DIODE-SWITCHING	21.6	52.8
D073	DIODE-SWITCHING	34.9	52.8
D074	DIODE-SWITCHING	30.5	52.8
D075	DIODE-SWITCHING	39.0	52.8
D077	DIODE-SWITCHING	43.4	52.8
D078	DIODE-ZENER	42.7	33.6
D079	DIODE-ZENER	68.9	58.0
D081	DIODE-ZENER	77.6	58.1
D082	DIODE-ZENER	68.9	58.0
D083	DIODE-ZENER	77.6	58.1
D084	DIODE-ZENER	45.7	62.0
D085	DIODE-ZENER	39.2	64.6
D087	DIODE-SWITCHING	10.1.3	10.6.8
D088	DIODE-RECTIFIER	20.5.5	24.9.2
D089	DIODE-ZENER	23.1.3	37.5
D090	DIODE-ZENER	22.1.3	37.5
D091	DIODE-ZENER	23.5.8	37.3
D092	DIODE-ZENER	22.6.4	37.3
D093	DIODE-ZENER	22.7.6	37.1
D094	DIODE-ZENER	23.2.0	37.1
D095	DIODE-RECTIFIER	15.4.6	25.4.8

D812	DIODE-RECTIFIER	18.7	21.0.6
D813	DIODE-RECTIFIER	49.8	21.9.2
D814	DIODE-SCHOTTKY	9.1	10.2.9
D815	DIODE-RECTIFIER	21.8	17.7.0
D816	DIODE-ZENER	29.8	24.4.1
D817	DIODE-ZENER	26.0	19.6.5
D818	DIODE-RECTIFIER	27.0	19.6.5
D819	DIODE-ZENER	27.4	24.3.9
D901	DIODE-SWITCHING	13.1.6	17.6.1
D906	DIODE-ZENER	20.1.0	13.3.2
D907	DIODE-ZENER	19.6.9	13.3.2
D912	DIODE-ZENER	8.5.0	10.0.5
D915	DIODE-SWITCHING	10.1	19.2.5
D916	DIODE-SWITCHING	10.0	19.6.9
D921	DIODE-ZENER	17.5	25.6
D922	DIODE-SWITCHING	6.4.6	18.0.5
D924	DIODE-SWITCHING	19.4.2	21.2.7
D926	DIODE-ZENER	7.2	4.6.0
D927	DIODE-ZENER	20.1	31.7
D928	DIODE-ZENER	47.3	55.3
D929	DIODE-ZENER	89.1	10.2.1
D930	DIODE-ZENER	14.9.5	6.4.5
D931	DIODE-ZENER	14.9.7	7.8.4
D933	DIODE-ZENER	18.4.6	21.4.3
D935	DIODE-ZENER	15.4.8	28.0
D936	DIODE-ZENER	15.9.1	27.7
D937	DIODE-ZENER	22.8.6	16.4.3
D938	DIODE-ZENER	22.4.9	15.9.7
D939	DIODE-ZENER	27.2.3	14.7.0
D940	DIODE-ZENER	23.1.0	15.4.3

IC

IC001	IC-EEPROM	8.3	25.4
IC002	IC-CMOS LOGIC	49.7	29.4
IC003	IC-EEPROM	14.1	33.7
IC004	IC-AUDIO SWITCH	15.5.1	15.7.9
IC101	IC-A/D CONVERTER	65.0	27.6.5
IC102	IC-RECEIVER	28.0	7.4.8
IC103	IC-VOL DETECTION	4.5.6	68.1
IC104	IC-POSI FIXED REG.	55.2	62.2
IC201	IC-VIDEO PROCESS	120.3	10.8.2
IC202	IC-VIDEO SWITCH	166.8	82.8

IC203	IC-ANALOG SWITCH	14.1.4	79.9
IC204	IC-VIDEO SWITCH	12.8.4	80.2
IC405	IC-VIDEO PROCESS	118.5	15.0.4
IC406	IC-DRAM	119.4	17.6.4
IC501	IC-VIDEO PROCESS	83.3	19.0.0
IC507	IC-TTL	209.0	20.0.9
IC706	IC-CMOS LOGIC	188.4	19.4.2
IC705	IC-SRAM	20.2.5	19.2.8
IC704	IC-TTL	19.7.7	20.2.9
IC702	IC-AUDIO AMP	13.0.2	22.5.7
IC701	IC-AUDIO AMP	20.0.8	22.3.5
IC618	IC-OP AMP	22.2.1	24.9.2
IC617	IC OP AMP	21.5.2	24.9.2
IC614	IC OP AMP	20.0.7	24.9.2
IC616	IC OP AMP	20.8.9	24.9.2
IC613	IC OP AMP	19.6.0	24.9.2
IC609	IC-VOL DETECTOR	93.9	99.6
IC608	IC-CMOS LOGIC	89.1	10.9.8
IC607	IC-DRAM	31.6	14.4.4
IC612	IC-DRAM	31.6	12.4.7
IC606	IC-DC/DC CONVERTER	19.6.5	25.2.3
IC605	IC-EEPROM	58.7	16.1.8
IC602	IC LCD CONTROLLER	62.5	13.3.6
IC601	IC-FLASH MEMORY	40.8	10.2.0
IC516	FET SILICON	12.7.5	24.8.6
IC515	IC-TRANSMITTER	91.4	23.1.8
IC514	IC-TIMER	16.6.1	22.2.9
IC513	IC-TIMER	17.1.4	21.3.9
IC511	IC-DRAM	58.9	20.0.5
IC510	IC-DRAM	58.9	17.6.2
IC501	IC-VIDEO PROCESS	83.3	19.0.0
IC707	IC-TTL	209.0	20.0.9
IC708	IC-TTL	21.4.8	18.6.1
IC709	IC-TTL	21.4.8	19.2.4
IC711	IC-CMOS LOGIC	18.6.4	18.5.6
IC712	IC-TTL	20.2.4	19.5.0
IC713	IC-TTL	20.5.0	18.1.4
IC809	IC-POSI FIXED REG.	56.4	24.5.3
IC810	IC-POSI FIXED REG.	16.5.6	24.1.7
IC811	IC-SWITCH REG.	18.4.4	24.9.2
IC812	IC-SWITCH VOL REG.	11.5	22.1.0
IC813	IC-DC/DC CONVERTER	44.5	22.2.9

Q001	FET SILICON	27.1	36.1
Q002	FET SILICON	27.1	31.4
Q177	IR SMALL SIGNAL	156.3	68.6
Q178	IR SMALL SIGNAL	156.3	80.0
Q510	IR SMALL SIGNAL	13.7.7	242.2
Q511	IR SMALL SIGNAL	136.0	246.0
Q601	FET SILICON	10.0	159.4
Q602	FET SILICON	10.0	164.9
Q603	FET SILICON	10.0	164.0
Q604	FET SILICON	10.1	154.6
Q611	TR SMALL SIGNAL	12.7.0	164.9
Q612	TR SMALL SIGNAL	13.4.7	186.4
Q701	TR SMALL SIGNAL	12.2.3	22.7.5
Q702	TR SMALL SIGNAL	22.4.4	21.5.1
Q810	TR SMALL SIGNAL	22.5.6	19.4.0
Q811	TR SMALL SIGNAL	22.4.9	16.5.2
Q812	TR SMALL SIGNAL	13.1	24.0.7
Q814	TR SMALL SIGNAL	18.4.6	23.6.5
Q901	TR SMALL SIGNAL	18.5.7	13.0.5
Q904	TR SMALL SIGNAL	82.5	23.9.2
Q905	TR SMALL SIGNAL	10.1	32.0
Q906	TR SMALL SIGNAL	16.2	30.2
Q907	TR SMALL SIGNAL	19.0.2	21.5.1
Q908	TR SMALL SIGNAL	18.4.5	49.2

11 Schematic Diagrams

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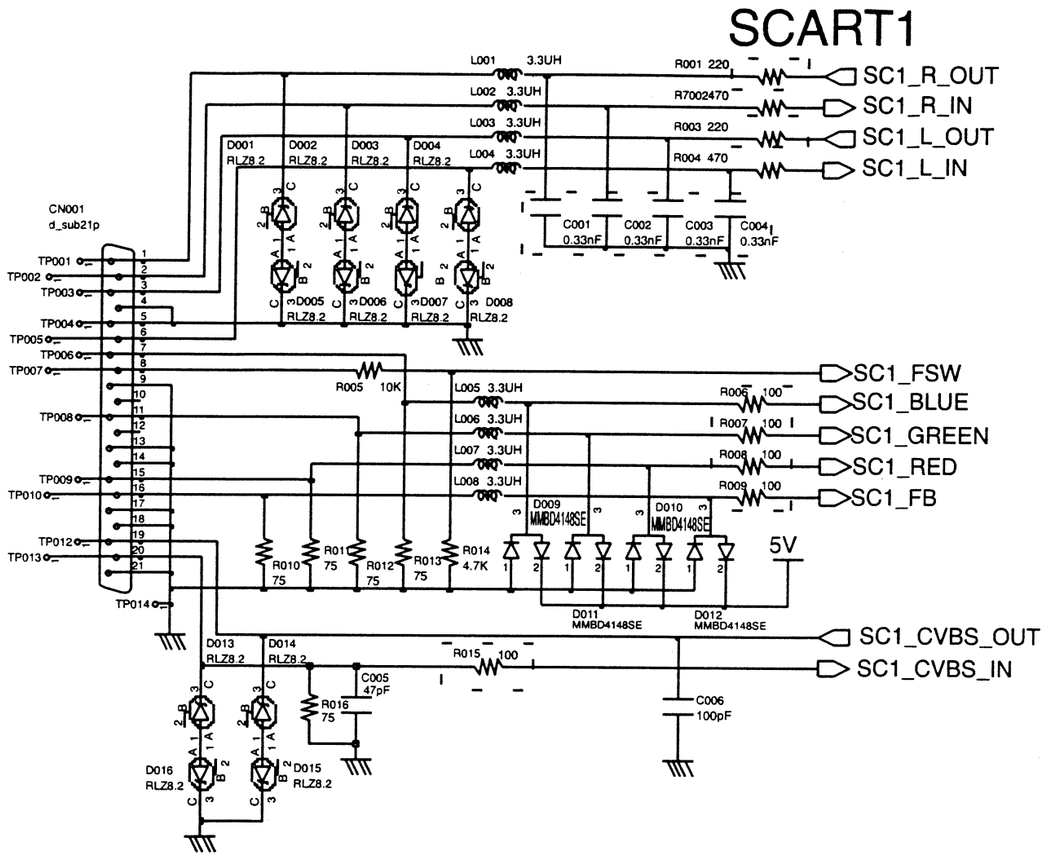
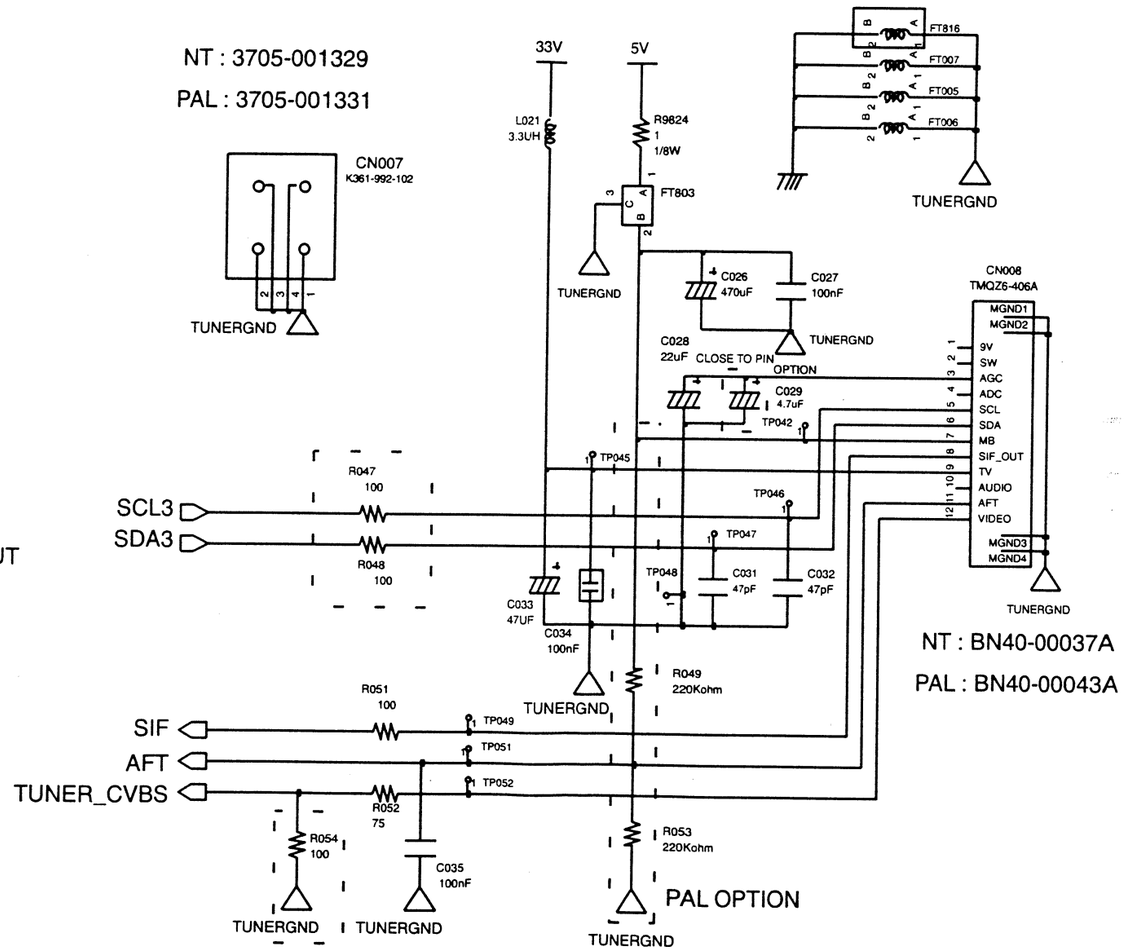
11-1 AV INOUT SOUND DELAY Schematic Diagram





_CLK_1
R742 100 1/10W
R743 100 1/10W
R744 100 1/10W
R745 100 1/10W
R746 100 1/10W
R747 100 1/10W
S_CLK_1

IC704 74F163AD(REEL)
IC707 74F163AD(REEL)
IC708 74F163AD(REEL)
IC709 74F163AD(REEL)
D0 D1 D2 D3 Q0 Q1 Q2 Q3

C778 100nF 25V MO
C779 100nF 25V MO
C777 100uF 16V
FT701
C782 100nF 25V MO
C785 100uF 16V
C786 100nF 25V MO
C798 100nF 25V MO

5VC
5V

1M SRAM
IC705 K6X1008C2D
A11 A9 A8 A13 WE_ CS2 A15 VCC NC A16 A14 A12 A7 A6 A5 A4
OE_ A10 CS_1 I/O8 I/O7 I/O6 I/O5 I/O4 VSS I/O3 I/O2 I/O1 A0 A1 A2 A3

OPTION
BOM : DELETE

R749 150
R748 150

DELAY1
DELAY2
R777 1K 1/16W
R778 1K 1/16W
R781 1K 1/16W
R782 1K 1/16W
R783 4.7K 1/16W
R784 4.7K 1/16W

IC713 N74F125D
A IN B IN C IN D IN E IN F IN G IN
N M L K J I H

C712 100nF 25V MO
R779 1K 1/16W
R785 150 1/16W
R786 1K 1/16W
R787 1K 1/16W

OPTION
R9779 100 1/10W
R9778 100 1/10W
R9777 100 1/10W
R9776 100 1/10W
R9775 100 1/10W
R9774 100 1/10W
R9773 100 1/10W
R788 100 1/10W
S_DATA_OUT

IC706 MM74HC373MTCX
OUTPUT IQ 1D 2D 2Q 3Q 3D 4D 4Q GND
8Q 8D 7D 7Q 6Q 6D 5D 5Q VCC LATCH

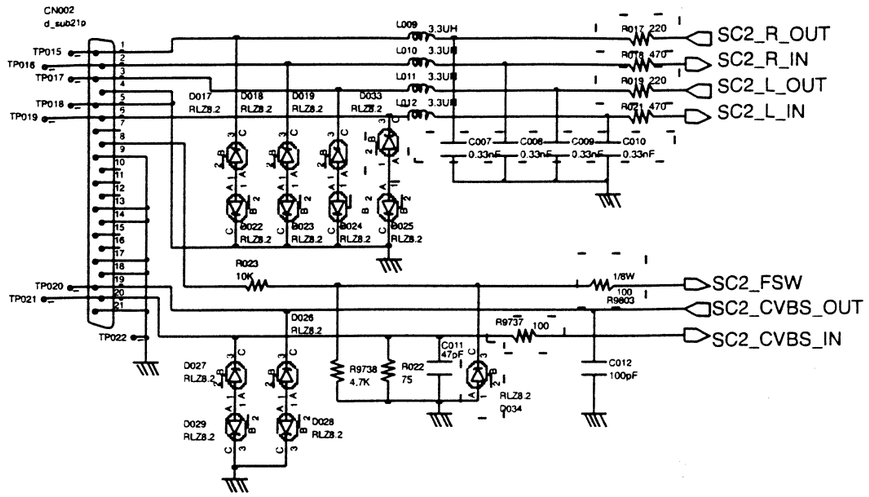
C781 100nF 50V MO
C783 10uF 16V
C784 47pF 50V MO

C787 10uF 16V
C788 100nF 50V MO

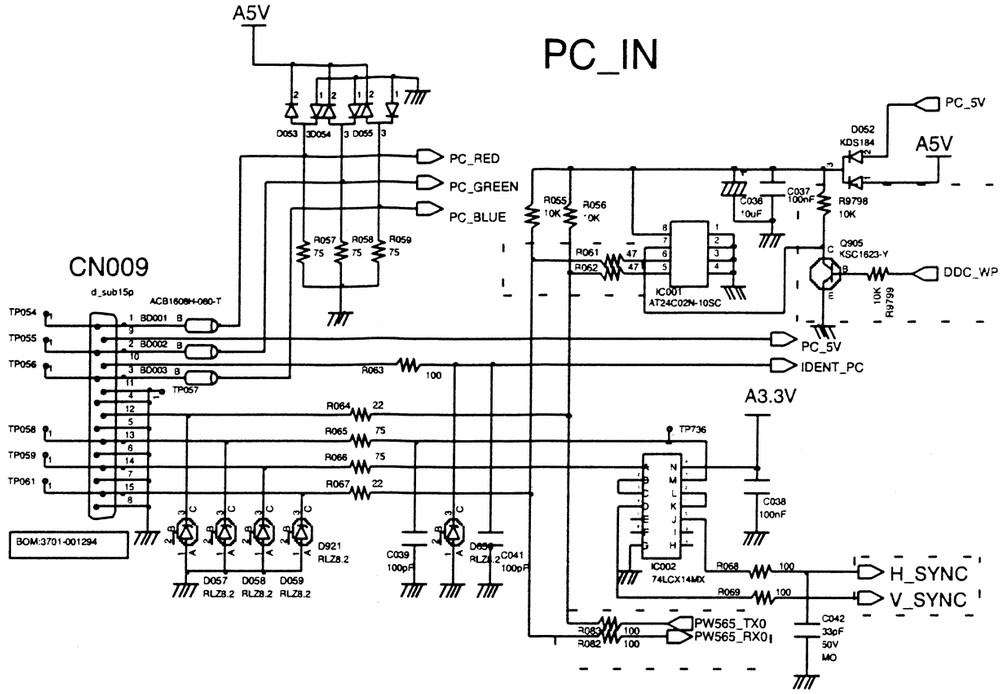
IC711 MM74HC373MTCX
S_CLK_1
R789 100 1/10W
S_DATA_IN

IC712 MC74F14D
S_CLK
S_CLK_1
R796 0
R799 0
OPTION
I0 O_0 I1 O_1 I2 O_2 GND
VCC O_5 O_4 I3 O_3
C789 100nF 25V MO

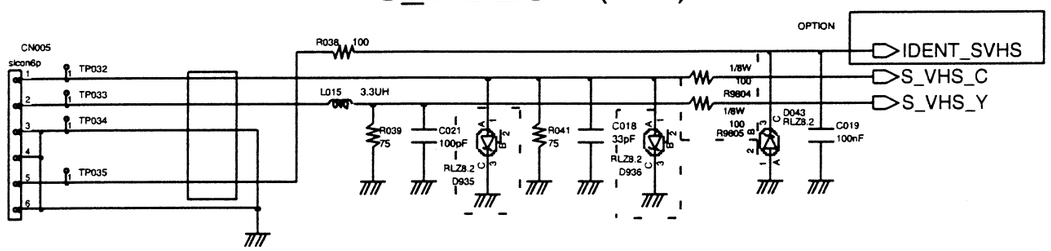
SCART2



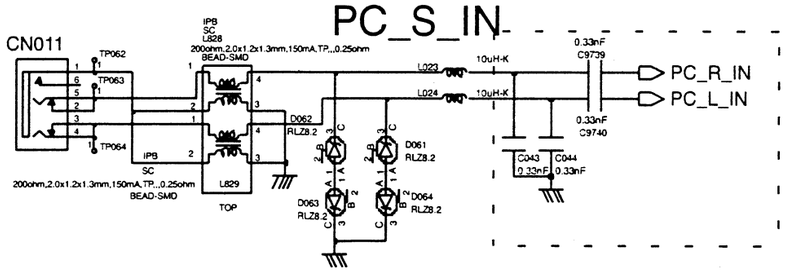
PC_IN



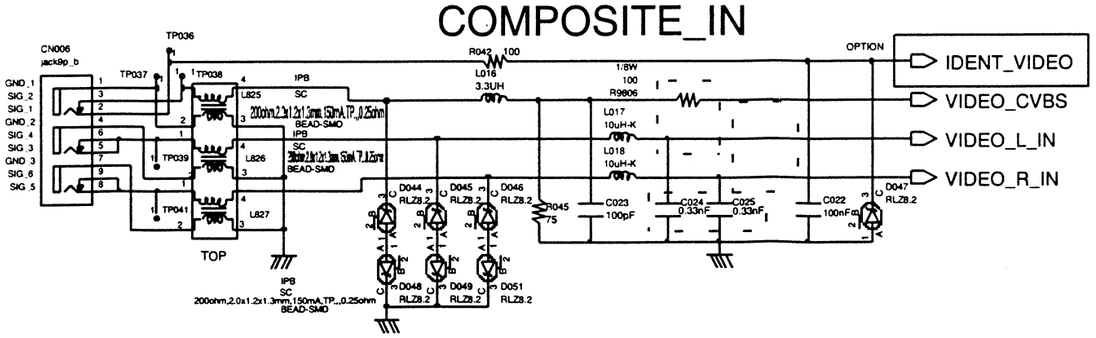
S_VIDEO (Y/C)



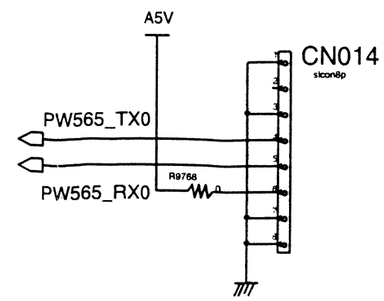
PC_S_IN



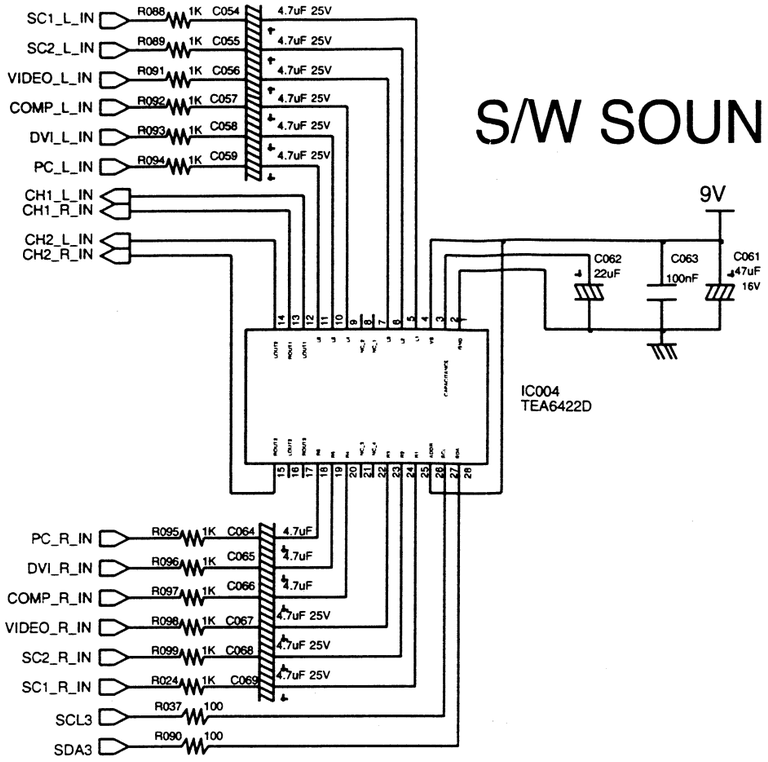
COMPOSITE_IN



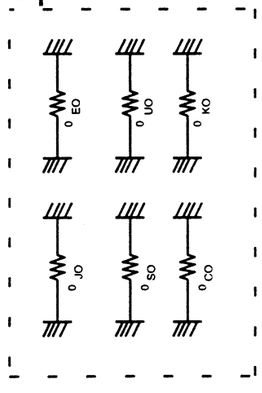
FOR JIG



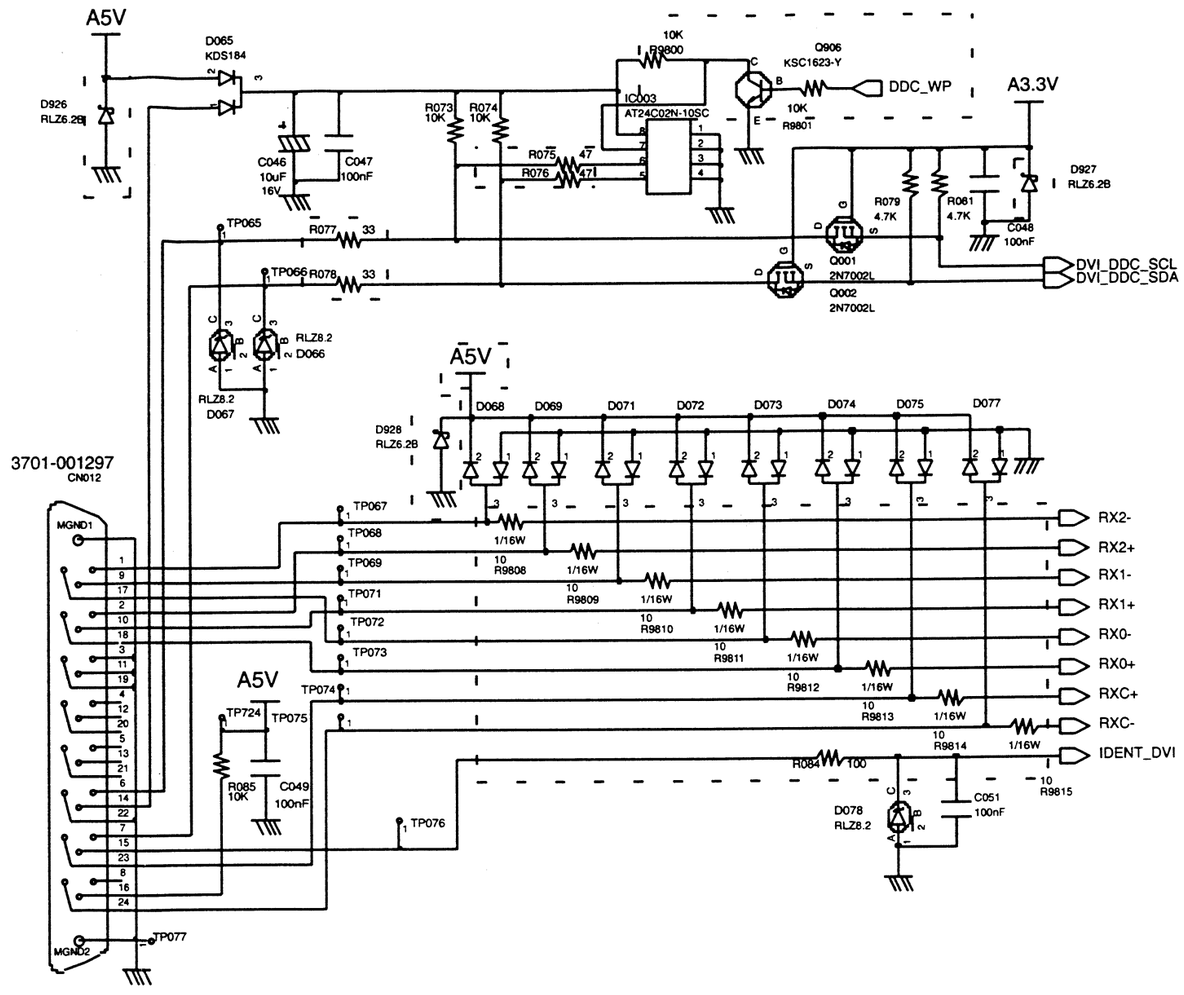
S/W SOUND

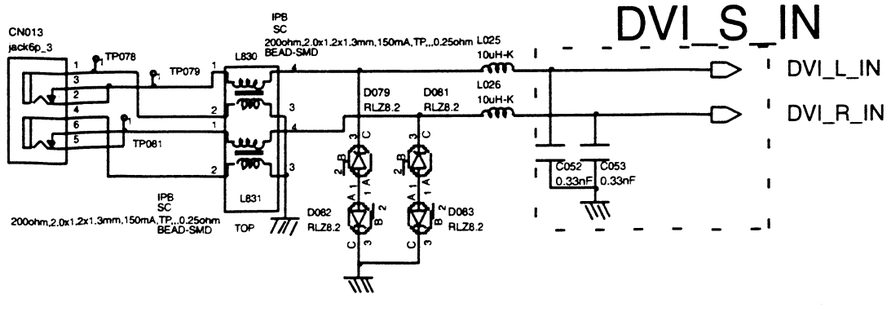


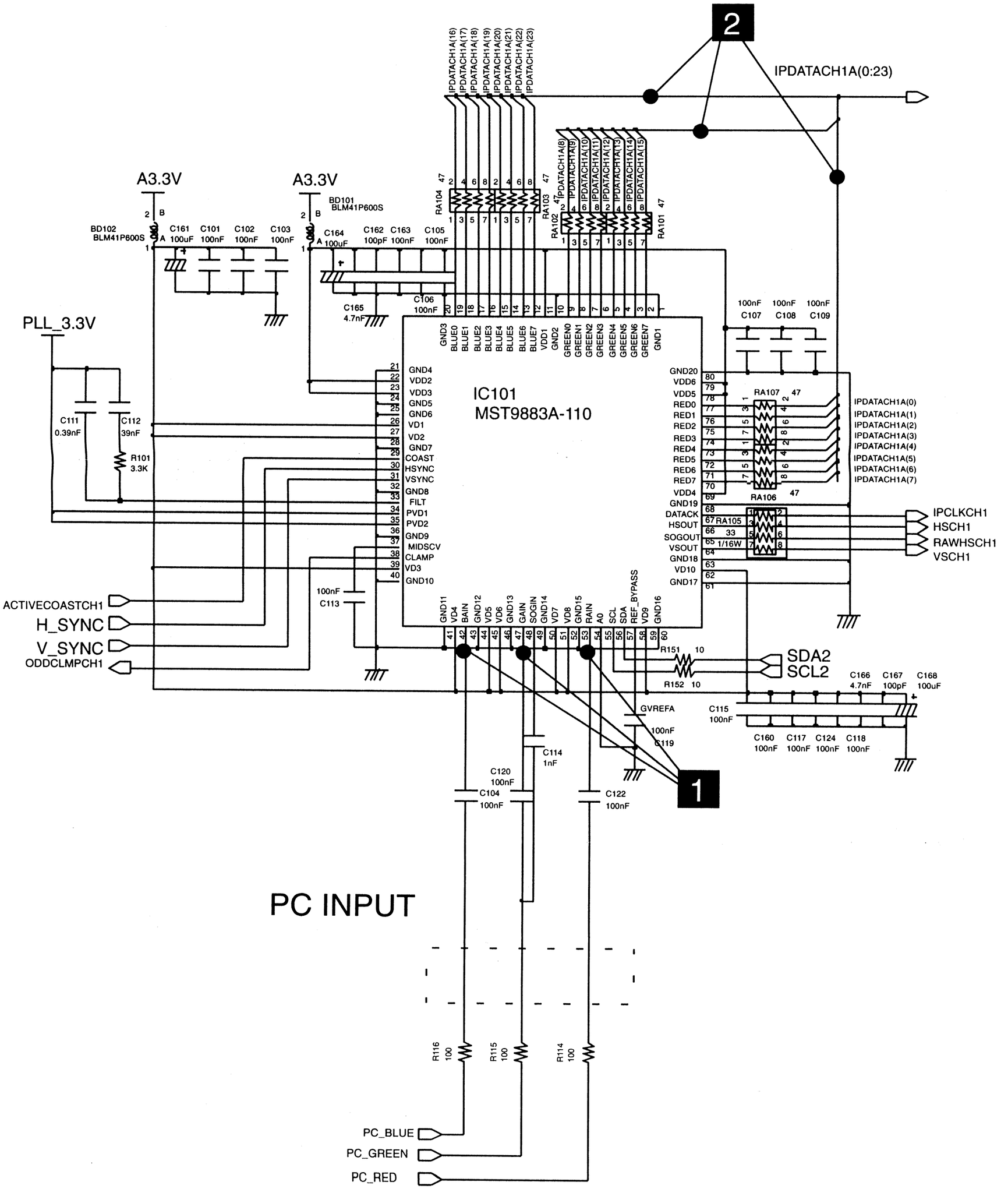
Option Selection



DVI INPUT






2
IPDATACH1A(0:23)
A3.3V
A3.3V
BD101
BLM41P600S
BD102
BLM41P600S
C161 100uF
C101 100nF
C102 100nF
C103 100nF
C164 100uF
C162 100pF
C163 100nF
C105 100nF
C165 4.7nF
C106 100nF
RA104 47
RA103 47
RA102 47
RA101 47
PLL_3.3V
C111 0.39nF
C112 39nF
R101 3.3K
IC101
MST9883A-110
GND3 BLUE0 BLUE1 BLUE2 BLUE3 BLUE4 BLUE5 BLUE6 BLUE7 VDD1 GND2 GREEN0 GREEN1 GREEN2 GREEN3 GREEN4 GREEN5 GREEN6 GREEN7 GND1
GND4 VDD2 VDD3 GND5 GND6 VD1 VD2 GND7 COAST HSYNC VSYNC GND8 FILT PVD1 PVD2 GND9 MIDSCV CLAMP VD3 GND10
GND11 VD4 BAIN GND12 VD5 VD6 GND13 GAIN SOGIN GND14 VD7 VD8 GND15 RAIN A0 SCL SDA REF_BYPASS VD9 GND16
GND20 VDD6 VDD5 RED0 RED1 RED2 RED3 RED4 RED5 RED6 RED7 VDD4 GND19 DATACK HSOUT SOGOUT VSOUT GND18 VD10 GND17
100nF C107
100nF C108
100nF C109
RA107 47
RA106 47
RA105 33 1/16W
IPDATACH1A(0)
IPDATACH1A(1)
IPDATACH1A(2)
IPDATACH1A(3)
IPDATACH1A(4)
IPDATACH1A(5)
IPDATACH1A(6)
IPDATACH1A(7)
IPCLKCH1
HSCH1
RAWHSCH1
VSCH1
ACTIVECOASTCH1
H_SYNC
V_SYNC
ODDCLMPCH1
100nF C113
R151 10
R152 10
SDA2
SCL2
C166 4.7nF
C167 100pF
C168 100uF
GVREFA
C115 100nF
100nF C119
C160 100nF
C117 100nF
C124 100nF
C118 100nF
C114 1nF
C120 100nF
C104 100nF
C122 100nF
1
PC INPUT
R116 100
R115 100
R114 100
PC_BLUE
PC_GREEN
PC_RED

DVI

7

IPCLKCH1
ACTIVECOASTCH1
VSCH1
HSCH1

R135 33
R136 10
R137 10
R138 10

C134 100nF
C135 100nF

RA111 22
RA112 22

IPDATACH1A(0:23)
IPDATACH1A(7)
IPDATACH1A(6)
IPDATACH1A(5)
IPDATACH1A(4)
IPDATACH1A(3)
IPDATACH1A(2)
IPDATACH1A(1)
IPDATACH1A(0)

A3.3V

C136 100nF

FT102

C137 100nF
C138 100nF
C158 100nF
C159 100nF
C151 100uF 16V

R139 4.7K
R141 4.7K

IC102
SII169CT100

RA123 22
RA124 22
RA125 22
RA126 22

IPDATACH1A(15)
IPDATACH1A(14)
IPDATACH1A(13)
IPDATACH1A(12)
IPDATACH1A(11)
IPDATACH1A(10)
IPDATACH1A(9)
IPDATACH1A(8)
IPDATACH1A(23)
IPDATACH1A(22)
IPDATACH1A(21)
IPDATACH1A(20)
IPDATACH1A(19)
IPDATACH1A(18)
IPDATACH1A(17)
IPDATACH1A(16)

R142 47

IC103
KIA7029F

R143 1K
R366 680
D106
D105
MMBD4148SE

C145 10nF
C141 10uF
C139 100uF 16V
C144 100nF
OPTION

A3.3V

FT103

C146 100nF
C147 10uF 16V
C148 100nF
C149 100nF

R144 0
R145 0
R146 4.7K
R147 4.7K
R148 47
R149 4.7K
R369 0

DVI_EN
DVI_DDC_SDA
RESET_DVI
OPTION
DVI_DDC_SCL

R153 47

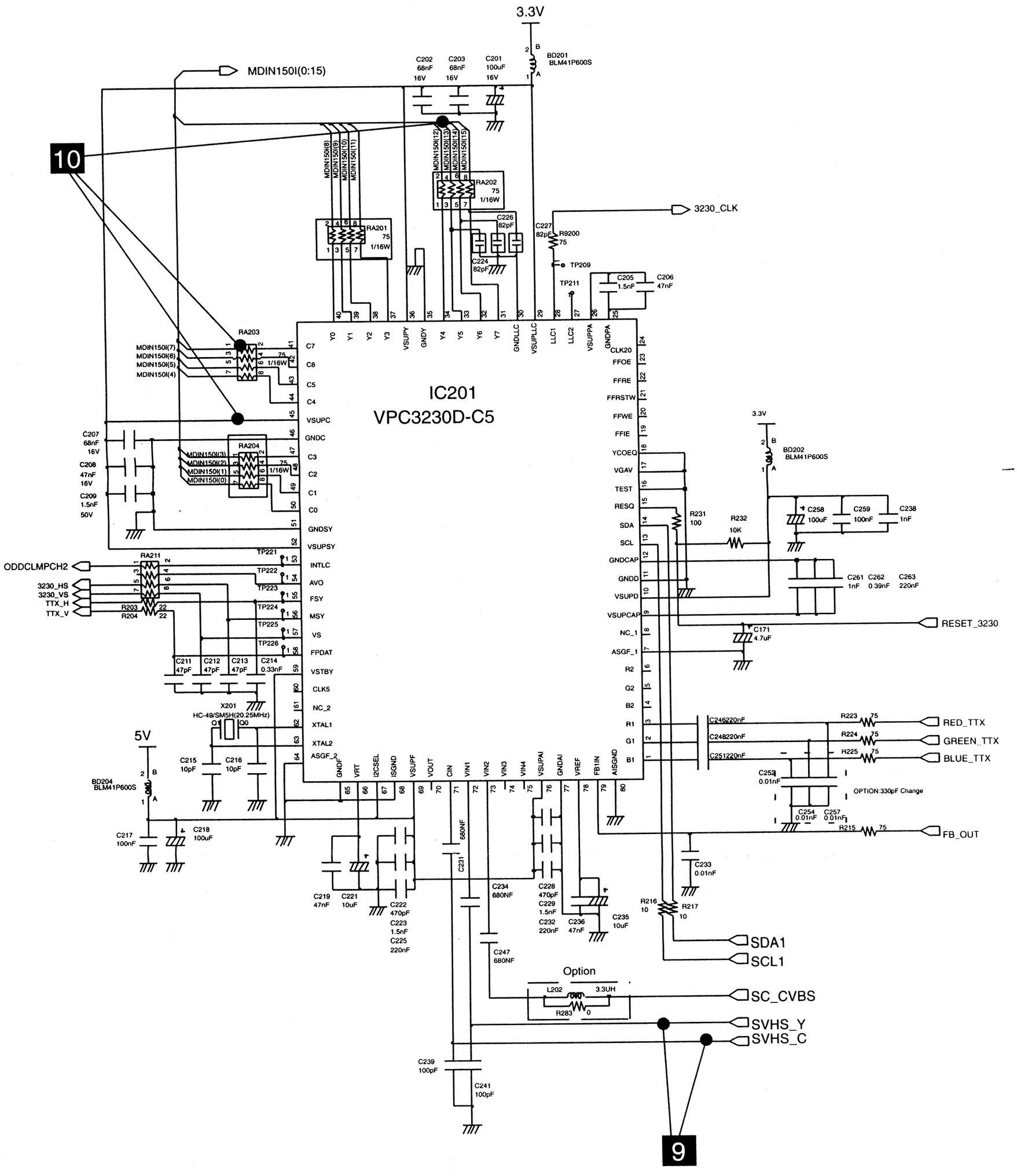
6

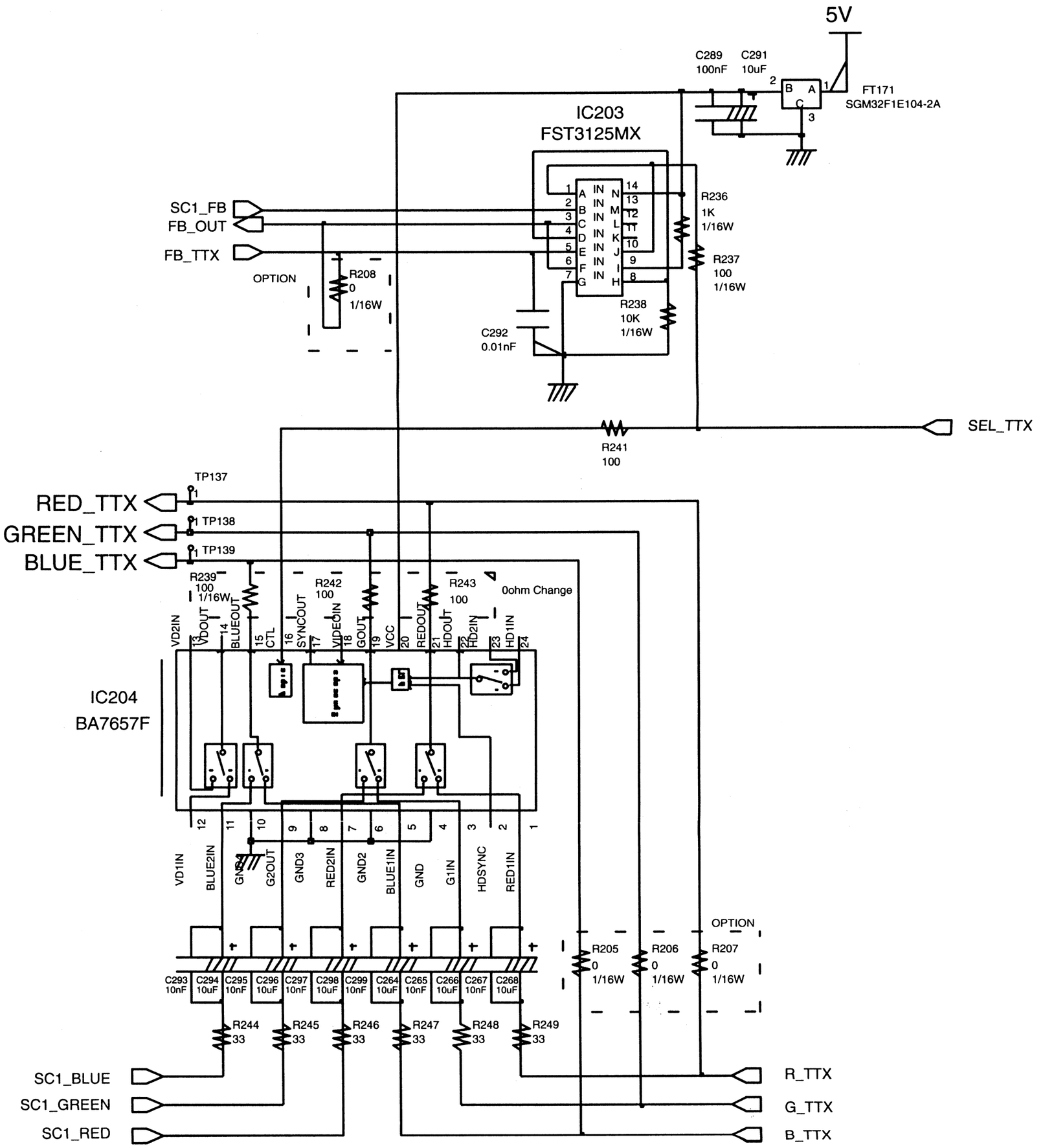
RX2+
RX2-
RX1+
RX1-
RX0+
RX0-
RXC+
RXC-

R154 390
R156 2K 1/16W

C152 100nF
C153 100nF
C154 100nF
C155 100nF
C156 100nF
C157 100uF 16V

6-1


3.3V
BD201
BLM41P600S
MDIN150I(0:15)
C202 68nF 16V
C203 68nF 16V
C201 100uF 16V
10
MDIN150I(8)
MDIN150I(9)
MDIN150I(10)
MDIN150I(11)
MDIN150I(12)
MDIN150I(13)
MDIN150I(14)
MDIN150I(15)
RA202 75 1/16W
RA201 75 1/16W
3230_CLK
C226 82pF
C227 82pF
R9200 75
C224 82pF
TP209
TP211
C205 1.5nF
C206 47nF
RA203
MDIN150I(7)
MDIN150I(6)
MDIN150I(5)
MDIN150I(4)
75 1/16W
IC201
VPC3230D-C5
Y0 Y1 Y2 Y3 VSUPY GNDY Y4 Y5 Y6 Y7 GNDLLC VSUPLLC LLC1 LLC2 VSUPPA GNDPA
C7 C6 C5 C4 VSUPC GNDC C3 C2 C1 C0 GNDSY VSUPSY INTLC AVO FSY MSY VS FPDAT VSTBY CLK5 NC_2 XTAL1 XTAL2 ASGF_2
CLK20 FFOE FFRE FFRSTW FFWE FFIE YCOEQ VGAV TEST RESQ SDA SCL GNDCAP GNDD VSUPD VSUPCAP NC_1 ASGF_1 R2 G2 B2 R1 G1 B1
GNDF VRT I2CSEL ISGND VSUPF VOUT CIN VIN1 VIN2 VIN3 VIN4 VSUPAI GNDAI VREF FB11N AISGND
C207 68nF 16V
C208 47nF 16V
C209 1.5nF 50V
RA204
MDIN150I(3)
MDIN150I(2)
MDIN150I(1)
MDIN150I(0)
ODDCLMPCH2
3230_HS
3230_VS
TTX_H
TTX_V
RA211
R203 22
R204 22
TP221
TP222
TP223
TP224
TP225
TP226
C211 47pF
C212 47pF
C213 47pF
C214 0.33nF
X201
HC-49/SM5H(20.25MHz)
5V
BD204
BLM41P600S
C215 10pF
C216 10pF
C217 100nF
C218 100uF
C219 47nF
C221 10uF
C222 470pF
C223 1.5nF
C225 220nF
680NF
C231
C234 680NF
C247 680NF
C228 470pF
C229 1.5nF
C232 220nF
C236 47nF
C235 10uF
C239 100pF
C241 100pF
Option
L202 3.3UH
R283 0
SDA1
SCL1
SC_CVBS
SVHS_Y
SVHS_C
3.3V
BD202
BLM41P600S
R231 100
R232 10K
C258 100uF
C259 100nF
C238 1nF
C261 1nF
C262 0.39nF
C263 220nF
RESET_3230
C171 4.7uF
C246 220nF
C248 220nF
C251 220nF
R223 75
R224 75
R225 75
RED_TTX
GREEN_TTX
BLUE_TTX
C252 0.01nF
OPTION:330pF Change
C254 0.01nF
C257 0.01nF
R215 75
FB_OUT
C233 0.01nF
R216 10
R217 10
9


5V
C289
100nF
C291
10uF
FT171
SGM32F1E104-2A
IC203
FST3125MX
SC1_FB
FB_OUT
FB_TTX
OPTION
R208
0
1/16W
R236
1K
1/16W
R237
100
1/16W
R238
10K
1/16W
C292
0.01nF
R241
100
SEL_TTX
TP137
TP138
TP139
RED_TTX
GREEN_TTX
BLUE_TTX
R239
100
1/16W
R242
100
R243
100
0ohm Change
IC204
BA7657F
VD2IN
VDOUT
BLUEOUT
CTL
SYNCOUT
VIDEOIN
GOUT
VCC
REDOUT
HDOUT
HD2IN
HD1IN
VD1IN
BLUE2IN
GND4
G2OUT
GND3
RED2IN
GND2
BLUE1IN
GND
G1IN
HDSYNC
RED1IN
OPTION
R205
0
1/16W
R206
0
1/16W
R207
0
1/16W
C293 10nF
C294 10uF
C295 10nF
C296 10uF
C297 10nF
C298 10uF
C299 10nF
C264 10uF
C265 10nF
C266 10uF
C267 10nF
C268 10uF
R244 33
R245 33
R246 33
R247 33
R248 33
R249 33
SC1_BLUE
SC1_GREEN
SC1_RED
R_TTX
G_TTX
B_TTX

8

8V

L201
3.3UH

C272 100nF
C271 100uF

IC202
TEA6425D

TUNER_CVBS
SDA3
SC1_CVBS_IN
SCL3
SC2_CVBS_IN
VIDEO_CVBS
S_VHS_Y
S_VHS_C

C273 10uF
C274 10uF
C275 10uF
C276 10uF
C277 10uF
C279 10uF

R254 10
R258 10

1 A
2 B
3 C
4 D
5 E
6 F
7 G
8 H
9 I
10 J
20 T
19 S
18 R
17 Q
16 P
15 O
14 N
13 M
12 L
11 K

C269
100nF

R282 4.7K
R263 4.7K
R264 4.7K
R266 4.7K
R267 4.7K

SC_CVBS
SVHS_C
SVHS_Y

TTX_CVBS

5V
R255 12K
R256 22
Q177 2SC2412K-Q
C278 22uF
R261 22K
R262 1K
D930 RLZ5.6B-TE-11
SC1_CVBS_OUT
R259 75
C281 100pF
SC1_CVBS_OUT

5V
R268 12K
R269 22
Q178 2SC2412K-Q
C185 22uF
R272 22K
R273 1K
D931 RLZ5.6B-TE-11
SC2_CVBS_OUT
R271 75
C288 100pF
SC2_CVBS_OUT

Option
C282 100pF
C283 100pF
C286 100pF

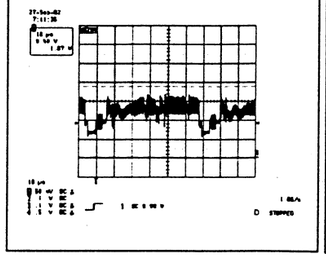
12

A5V
CLOSE TO IC101

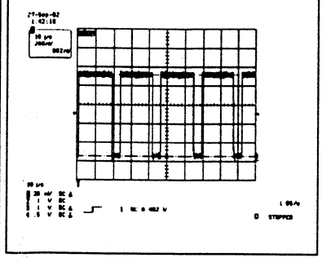
FT101
SGM32F1E104-2A
C191 10uF

PLL_3.3V
IC104
ADP3330ART-3.3
C192 100uF
C193 100nF
R191 100K
R192 330K
C195 1nF

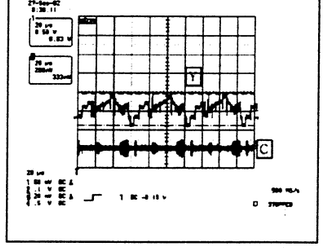
8 Tuner_CVBS Output Signal



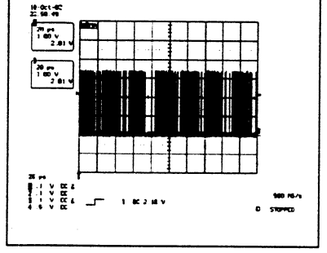
1 R,G,B Output Signal (#54, 48, 43) Of IC101



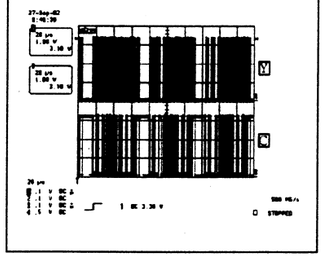
9 Analog Signal (Y,C) to IC201



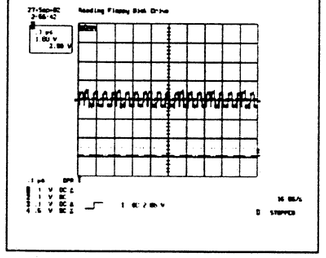
2 R,G,B Output Signal Of IC101



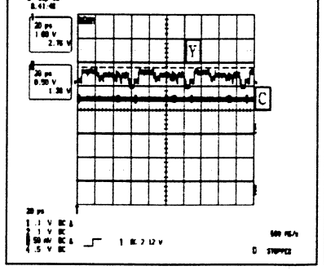
10 3230 Y,C_OUT (0:7) Data



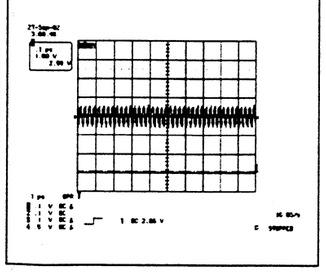
6 Signal of DVI_RX 0~2 (Data)



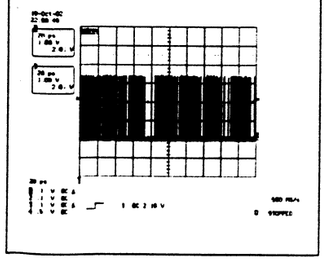
12 SVHS_Y,C Input Signal to IC202

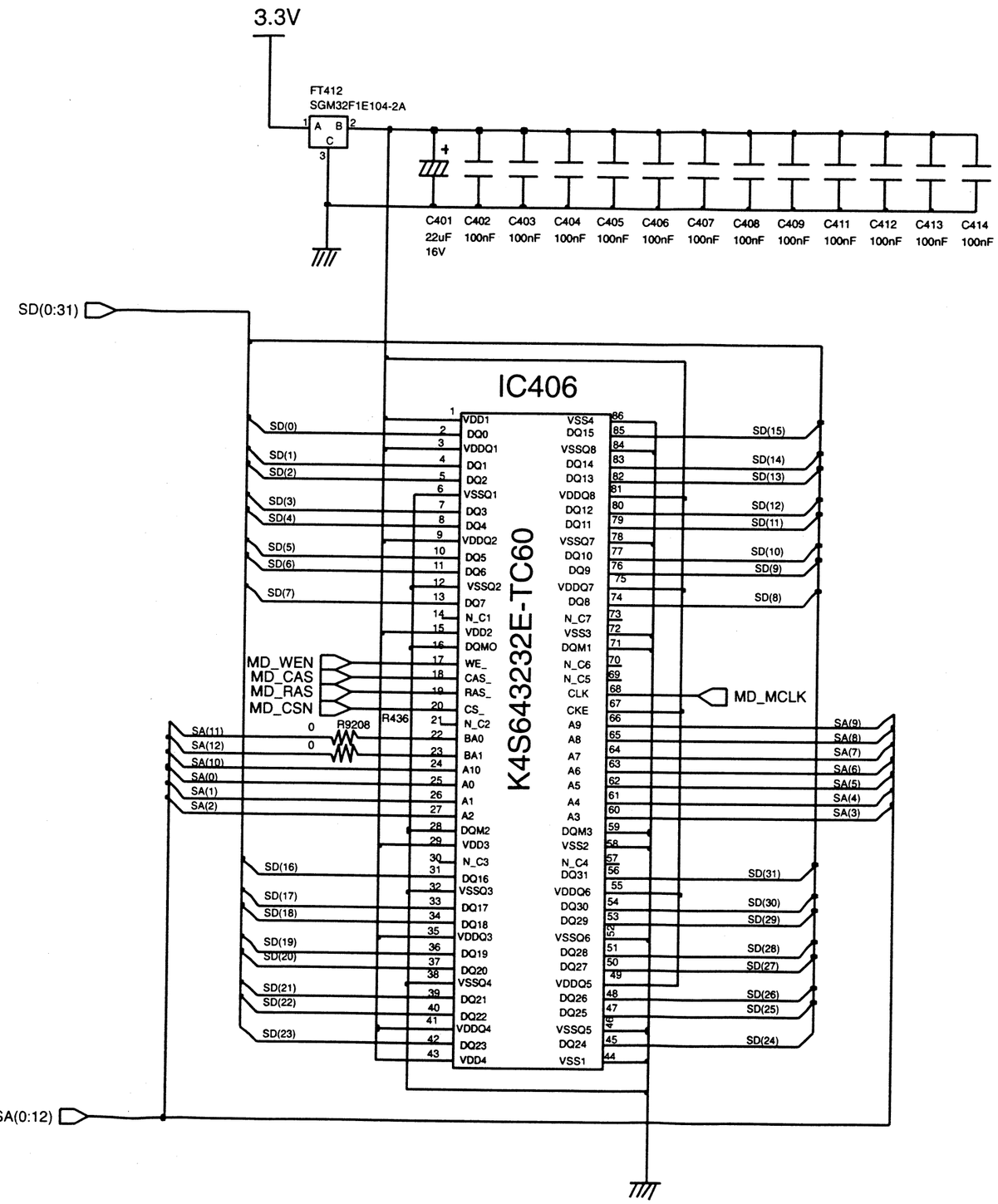


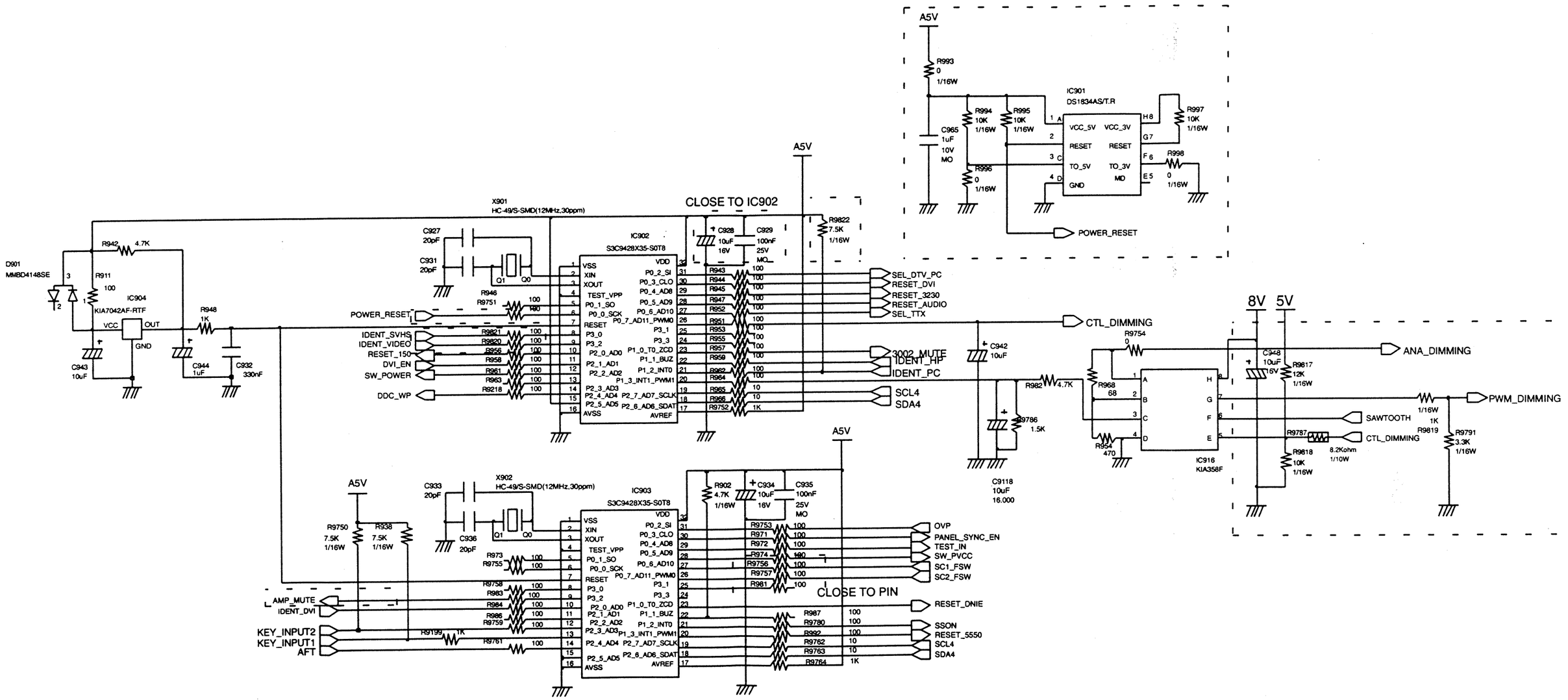
6-1 Signal of DVI_RXC (CLK)



7 Digital Output Signal Of IC102





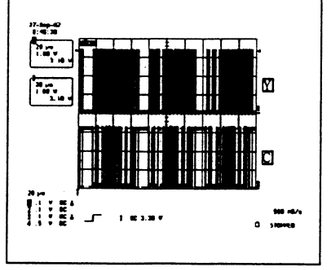

A5V
R993
0
1/16W
IC901
DS1834AS/T.R
R994
10K
1/16W
R995
10K
1/16W
R997
10K
1/16W
C965
1uF
10V
MO
VCC_5V
VCC_3V
RESET
RESET
TO_5V
TO_3V
GND
MD
R998
0
1/16W
R996
0
1/16W
POWER_RESET
X901
HC-49/S-SMD(12MHz,30ppm)
CLOSE TO IC902
C927
20pF
C931
20pF
Q1
Q0
IC902
S3C9428X35-S0T8
C928
10uF
16V
C929
100nF
25V
MO
R9822
7.5K
1/16W
D901
MMBD4148SE
R942
4.7K
R911
100
IC904
KIA7042AF-RTF
VCC
OUT
GND
R948
1K
C943
10uF
C944
1uF
C932
330nF
R946
R9751
100
180
POWER_RESET
IDENT_SVHS
IDENT_VIDEO
RESET_150
DVI_EN
SW_POWER
DDC_WP
R9821
R9820
R9956
R9958
R9961
R9963
R9218
100
SEL_DTV_PC
RESET_DVI
RESET_3230
RESET_AUDIO
SEL_TTX
CTL_DIMMING
3002_MUTE
IDENT_HP
IDENT_PC
SCL4
SDA4
C942
10uF
R982
4.7K
R9786
1.5K
C9118
10uF
16.000
8V
5V
R9754
0
R968
68
R954
470
IC916
KIA358F
C948
10uF
16V
R9817
12K
1/16W
ANA_DIMMING
PWM_DIMMING
SAWTOOTH
CTL_DIMMING
R9787
8.2Kohm
1/10W
R9818
10K
1/16W
R9819
1K
1/16W
R9791
3.3K
1/16W
A5V
X902
HC-49/S-SMD(12MHz,30ppm)
C933
20pF
C936
20pF
IC903
S3C9428X35-S0T8
R902
4.7K
1/16W
C934
10uF
16V
C935
100nF
25V
MO
R9750
7.5K
1/16W
R938
7.5K
1/16W
R973
R9755
100
R9758
R983
R984
R986
R9759
R9761
R9199
1K
AMP_MUTE
IDENT_DVI
KEY_INPUT2
KEY_INPUT1
AFT
R9753
R971
R972
R974
R9756
R9757
R981
OVP
PANEL_SYNC_EN
TEST_IN
SW_PVCC
SC1_FSW
SC2_FSW
CLOSE TO PIN
RESET_DNIE
R987
R9780
R992
R9762
R9763
R9764
SSON
RESET_5550
SCL4
SDA4

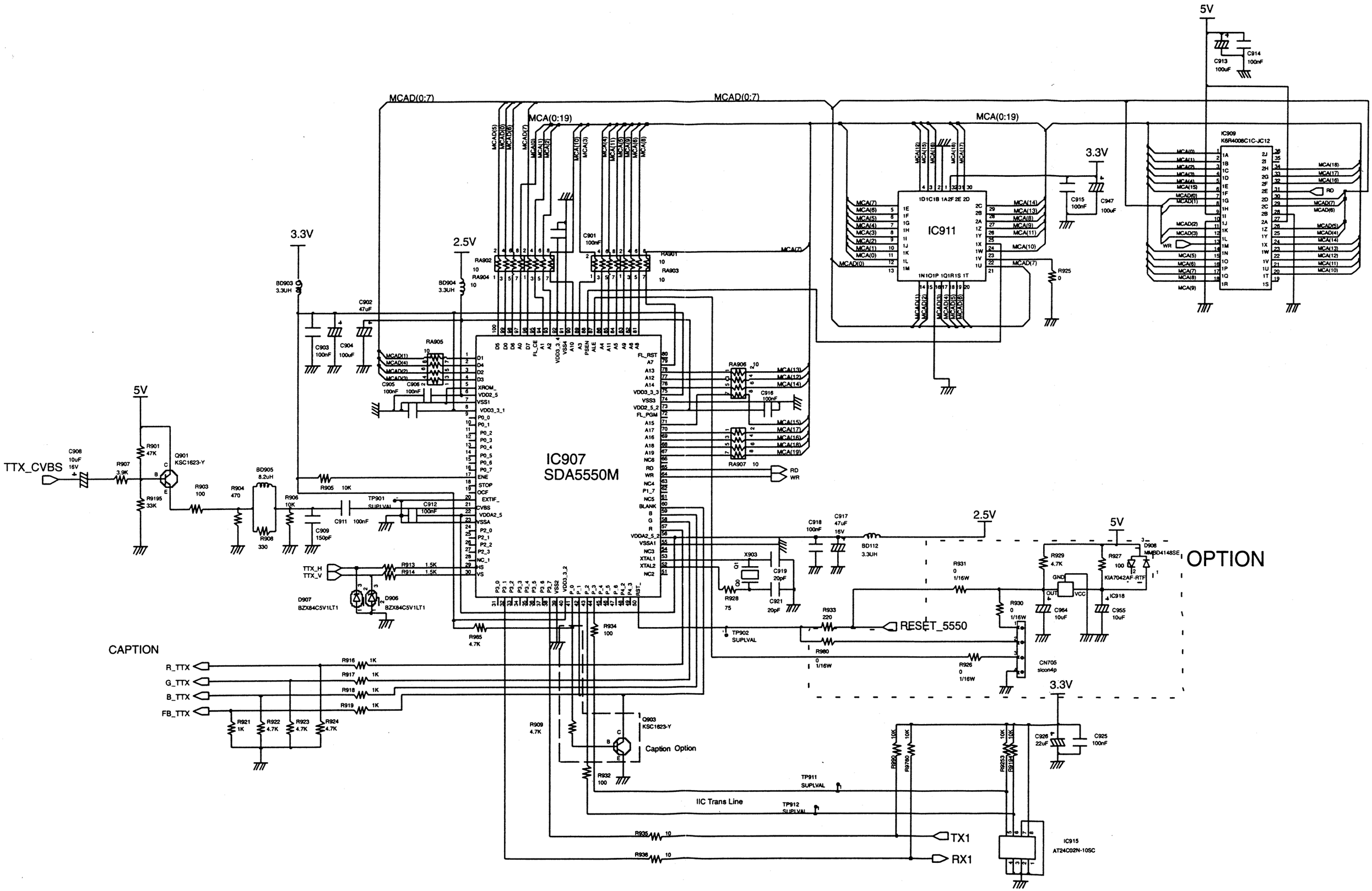
IC405

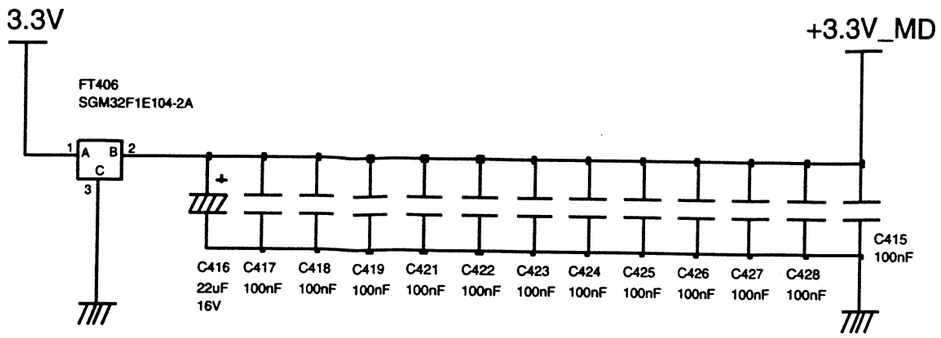
MDIN-150

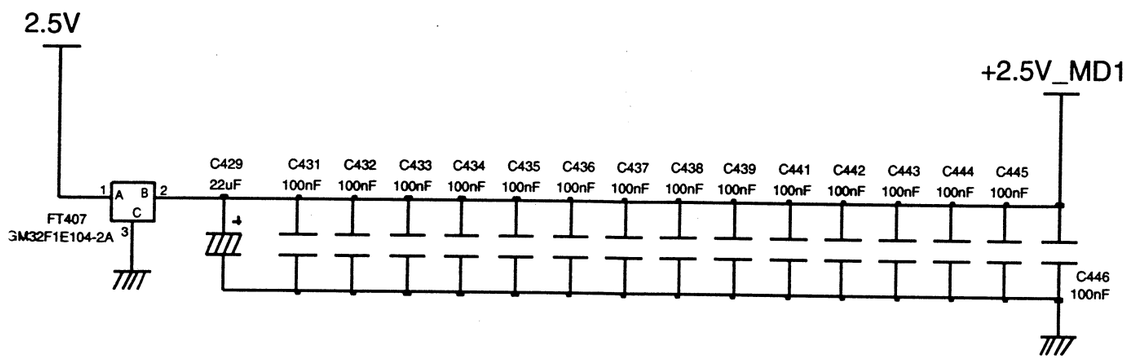
MDIN150 : 1204-002127

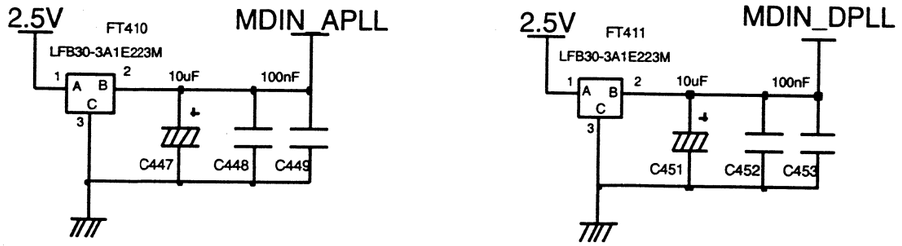
11 Digital Output Y,C_OUT (0:7) Data Of IC405

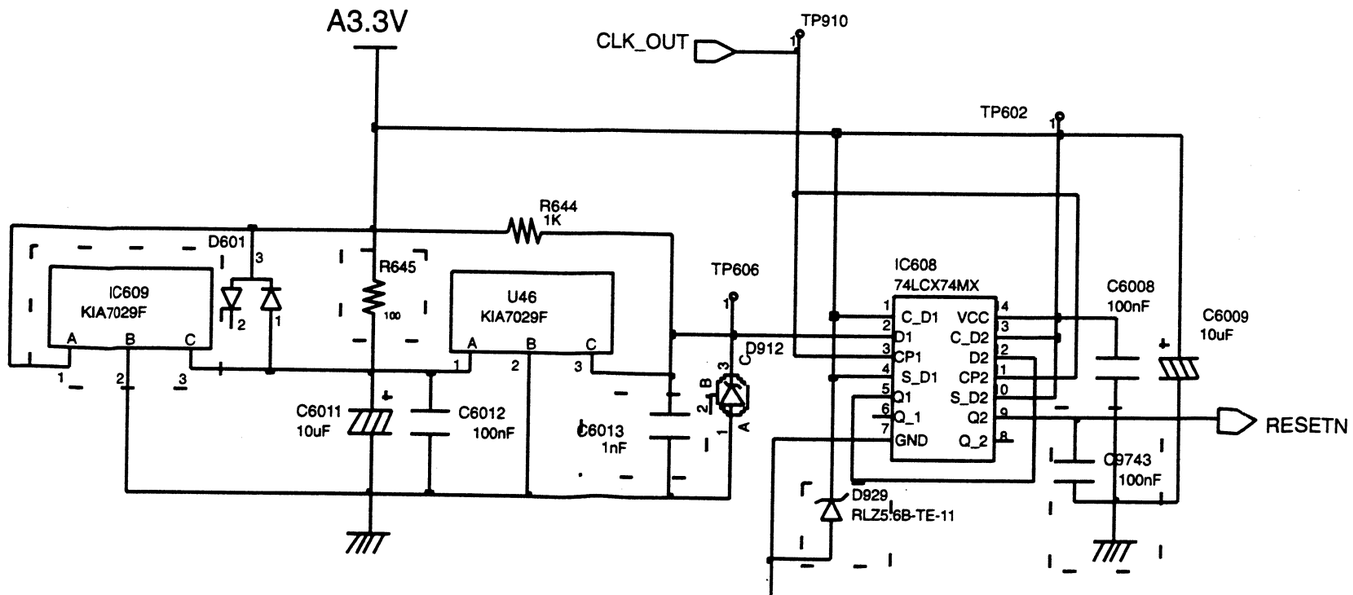


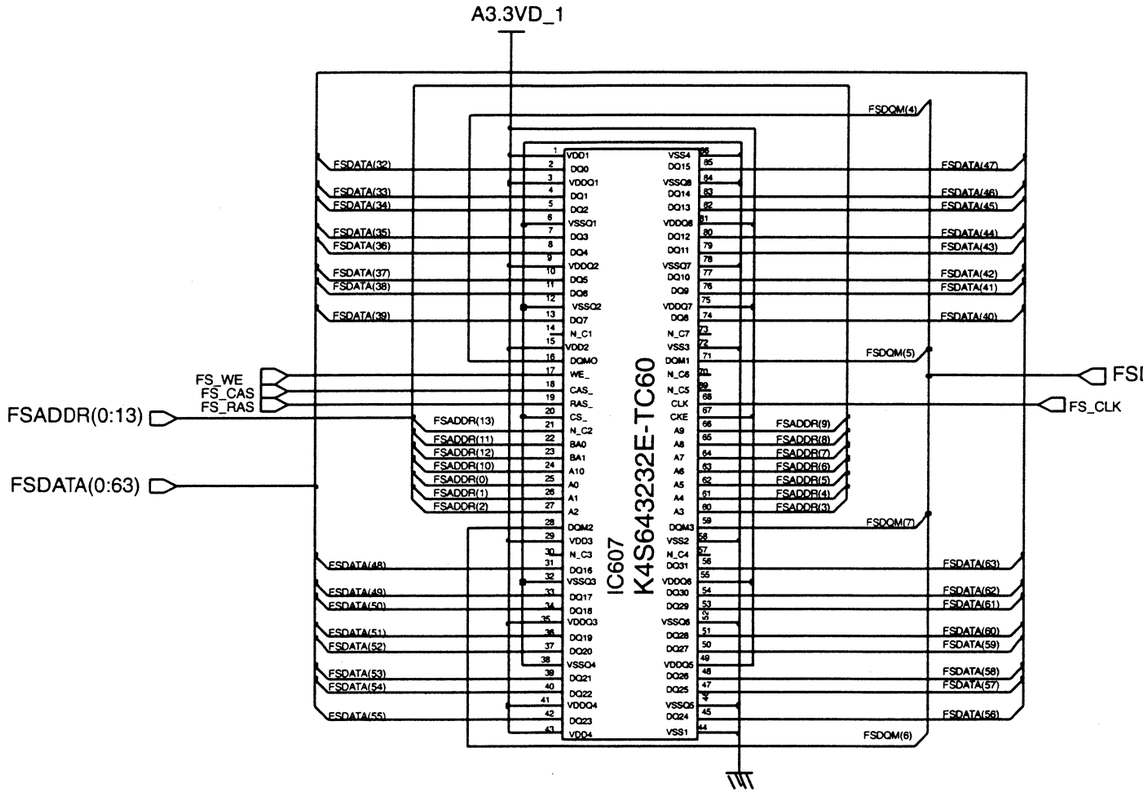

IC907
SDA5550M
IC911
IC909
K6R4008C1C-JC12
OPTION
Caption Option
CAPTION
IIC Trans Line
RESET_5550
TTX_CVBS
MCAD(0:7)
MCA(0:19)
5V
3.3V
2.5V
TX1
RX1
IC915
AT24C02N-10SC
CN705
sicon4p
KIA7042AF-RTF
MMBD4148SE

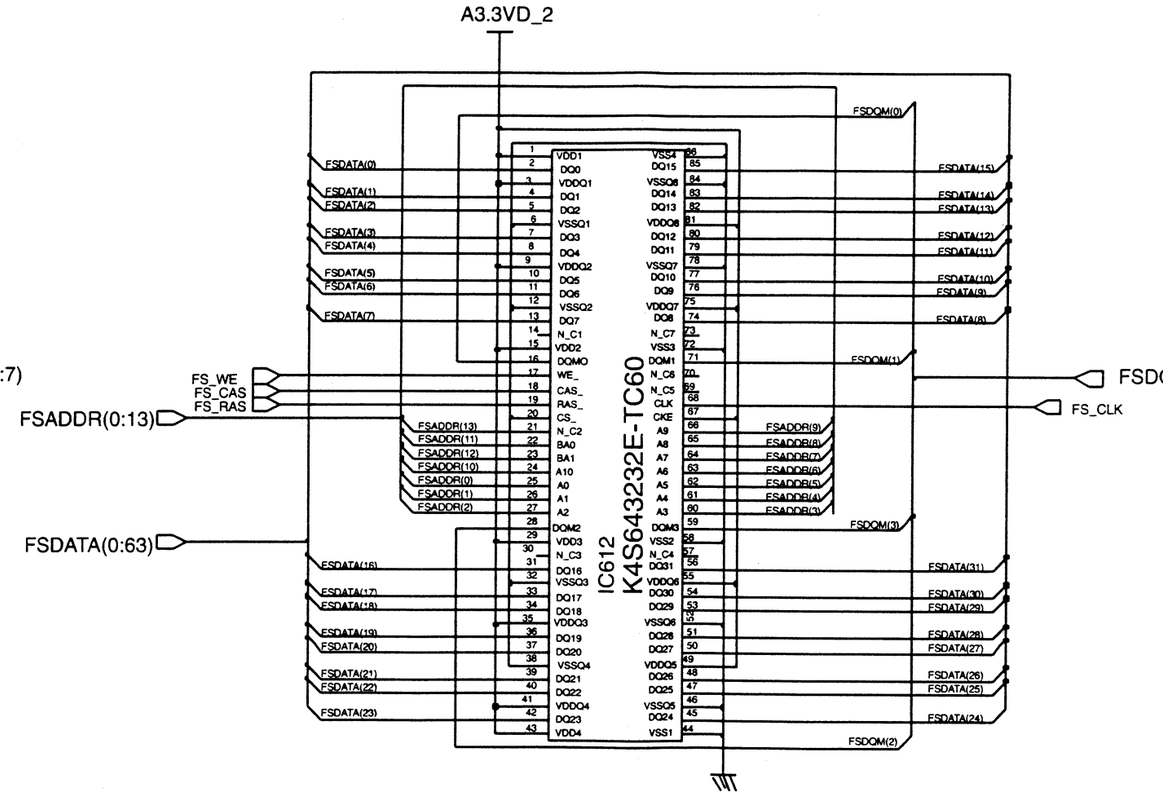

3.3V
+3.3V_MD
FT406
SGM32F1E104-2A
C415
100nF
C416 C417 C418 C419 C421 C422 C423 C424 C425 C426 C427 C428
22uF 100nF 100nF 100nF 100nF 100nF 100nF 100nF 100nF 100nF 100nF 100nF
16V


2.5V
+2.5V_MD1
FT407
GM32F1E104-2A
C429 C431 C432 C433 C434 C435 C436 C437 C438 C439 C441 C442 C443 C444 C445
22uF 100nF 100nF 100nF 100nF 100nF 100nF 100nF 100nF 100nF 100nF 100nF 100nF 100nF 100nF
C446
100nF

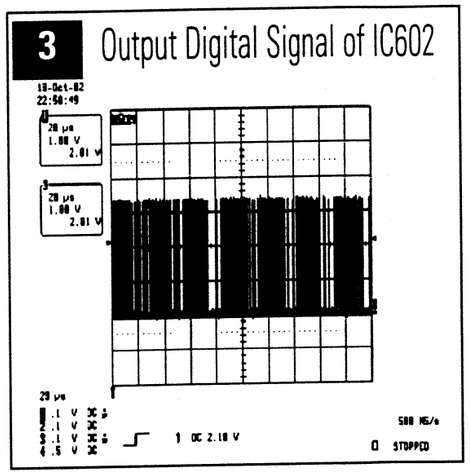

2.5V
FT410
LFB30-3A1E223M
MDIN_APLL
10uF
100nF
C447 C448 C449
2.5V
FT411
LFB30-3A1E223M
MDIN_DPLL
10uF
100nF
C451 C452 C453


A3.3V
CLK_OUT
TP910
TP602
R644
1K
D601
R645
100
IC609
KIA7029F
U46
KIA7029F
TP606
D912
IC608
74LCX74MX
C_D1
D1
CP1
S_D1
Q1
Q_1
GND
VCC
C_D2
D2
CP2
S_D2
Q2
Q_2
C6008
100nF
C6009
10uF
RESETN
C6011
10uF
C6012
100nF
C6013
1nF
C9743
100nF
D929
RLZ5.6B-TE-11

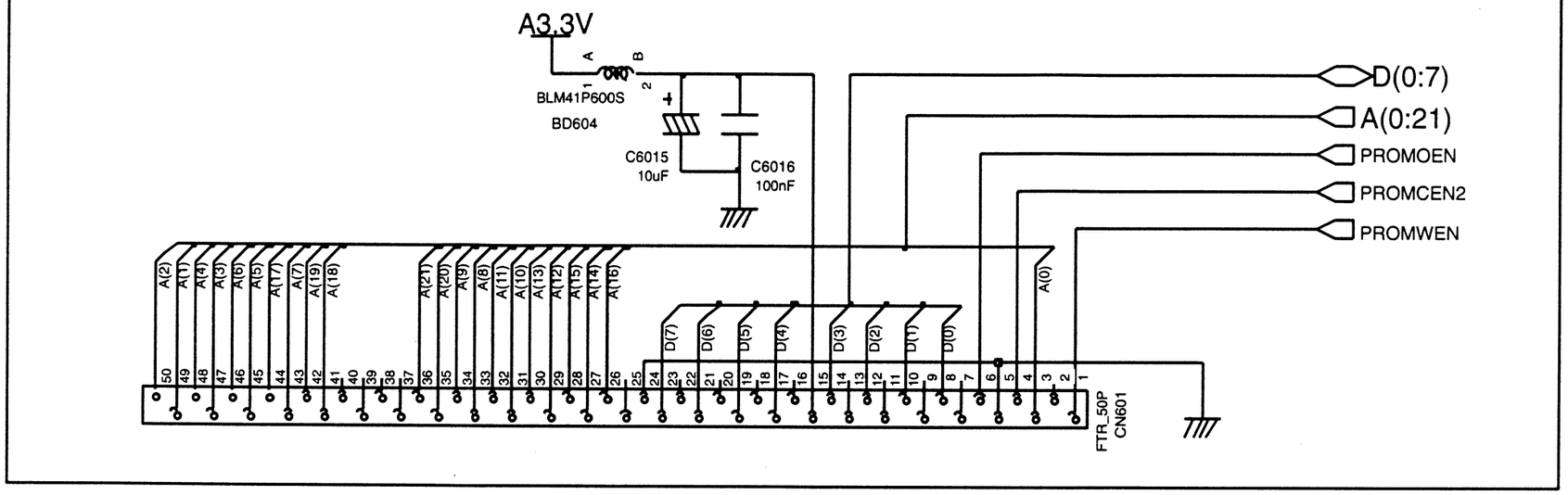

A3.3VD_1
FSDQM(4)
FSDATA(32)
FSDATA(33)
FSDATA(34)
FSDATA(35)
FSDATA(36)
FSDATA(37)
FSDATA(38)
FSDATA(39)
FSDATA(47)
FSDATA(46)
FSDATA(45)
FSDATA(44)
FSDATA(43)
FSDATA(42)
FSDATA(41)
FSDATA(40)
FSDQM(5)
FSDQM(0:7)
FS_CLK
FS_WE
FS_CAS
FS_RAS
FSADDR(0:13)
FSDATA(0:63)
FSADDR(13)
FSADDR(11)
FSADDR(12)
FSADDR(10)
FSADDR(0)
FSADDR(1)
FSADDR(2)
FSADDR(9)
FSADDR(8)
FSADDR(7)
FSADDR(6)
FSADDR(5)
FSADDR(4)
FSADDR(3)
FSDQM(7)
FSDATA(48)
FSDATA(49)
FSDATA(50)
FSDATA(51)
FSDATA(52)
FSDATA(53)
FSDATA(54)
FSDATA(55)
FSDATA(63)
FSDATA(62)
FSDATA(61)
FSDATA(60)
FSDATA(59)
FSDATA(58)
FSDATA(57)
FSDATA(56)
FSDQM(6)
IC607
K4S643232E-TC60

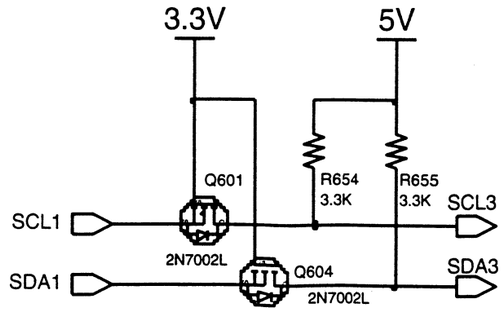

A3.3VD_2
FSDQM(0)
FSDATA(0)
FSDATA(1)
FSDATA(2)
FSDATA(3)
FSDATA(4)
FSDATA(5)
FSDATA(6)
FSDATA(7)
FSDATA(15)
FSDATA(14)
FSDATA(13)
FSDATA(12)
FSDATA(11)
FSDATA(10)
FSDATA(9)
FSDATA(8)
FSDQM(1)
FSDQM(0:7)
FS_CLK
FS_WE
FS_CAS
FS_RAS
FSADDR(0:13)
FSDATA(0:63)
FSADDR(13)
FSADDR(11)
FSADDR(12)
FSADDR(10)
FSADDR(0)
FSADDR(1)
FSADDR(2)
FSADDR(9)
FSADDR(8)
FSADDR(7)
FSADDR(6)
FSADDR(5)
FSADDR(4)
FSADDR(3)
FSDQM(3)
FSDATA(16)
FSDATA(17)
FSDATA(18)
FSDATA(19)
FSDATA(20)
FSDATA(21)
FSDATA(22)
FSDATA(23)
FSDATA(31)
FSDATA(30)
FSDATA(29)
FSDATA(28)
FSDATA(27)
FSDATA(26)
FSDATA(25)
FSDATA(24)
FSDQM(2)
IC612
K4S643232E-TC60

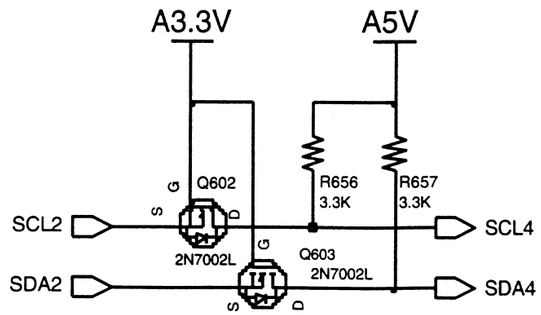
3 Output Digital Signal of IC602



S/W JIG OPTION







MICOM_SCALER

IC602

PW565

A1.8V

A1.8VD_565

A3.3V

A3.3VA

A1.8VA

OSC 70MHZ

FSDATA(0:63)

FSDQM(0:7)

FSADDR(0:13)

16MB:RA950

32MB:RA951

DNI_IBLUE(0:7)

DNI_IGREEN(0:7)

DNI_IRED(0:7)

TO NEAR X904 AND IC501

IC319

CLK_OUT_1

SSON

CLK_OUT

OPTION

IPCLKCH1

ACTIVECOASTCH1

HSCH1

VSCH1

ODDCLMPCH1

RAWHSCH1

IPDATACH1A(0:23)

IC601

A(0:21)

D(0:7)

Stuff : 29LV320
No Stuff : 29LV160

PROMWEN

RESETN

PROMCEN1

PROMOEN

SW_LVDS

IPCLKENCH2

HSCH2

VSCH2

ODDCLMPCH2

IPDATACH2A(0:15)

VSCH1
LED_RED

HSCH1
SW_INVERTER
EEPROM_WP
LED_GRN

IC604

CLK_OUT
SSON

SDA

SCL

RESETN

PROMCEN
PROMWEN
D(0:7)

SCL0
SDA0
SCL2
SDA2
SCL1
SDA1

5V

PROMCEN1
PROMCEN
PROMCEN2

TX1
RX1
PW565_TX0
PW565_RX0

EEPROM WP
SCL0
SDA0

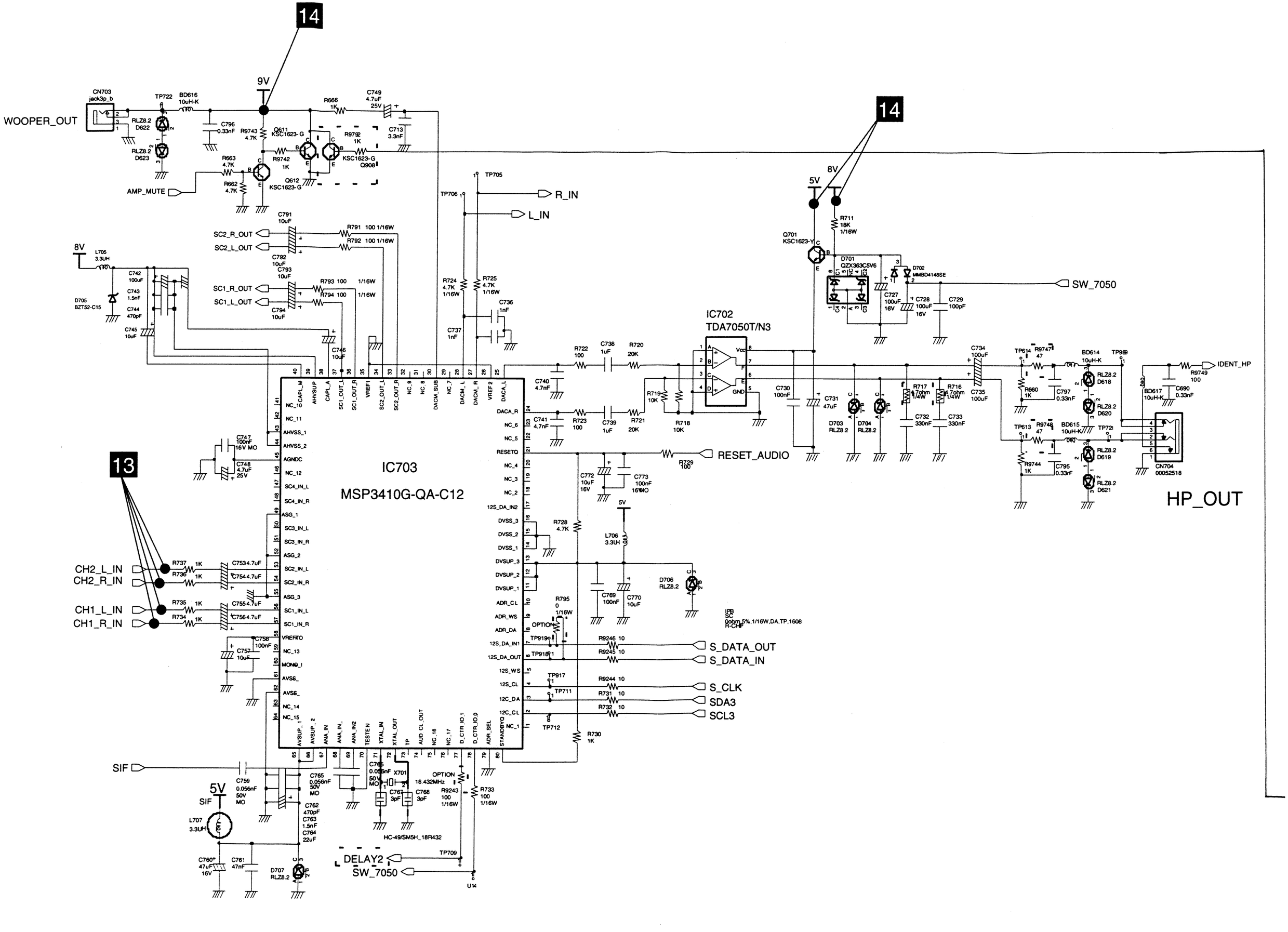
3ACGY
3ACBPB
3ACRPR
ANALOG OUT OPTION

DNI_INOCLK
DNI_INOHS
DNI_INOVS
DISPDDO
IR
IRQ2SYS

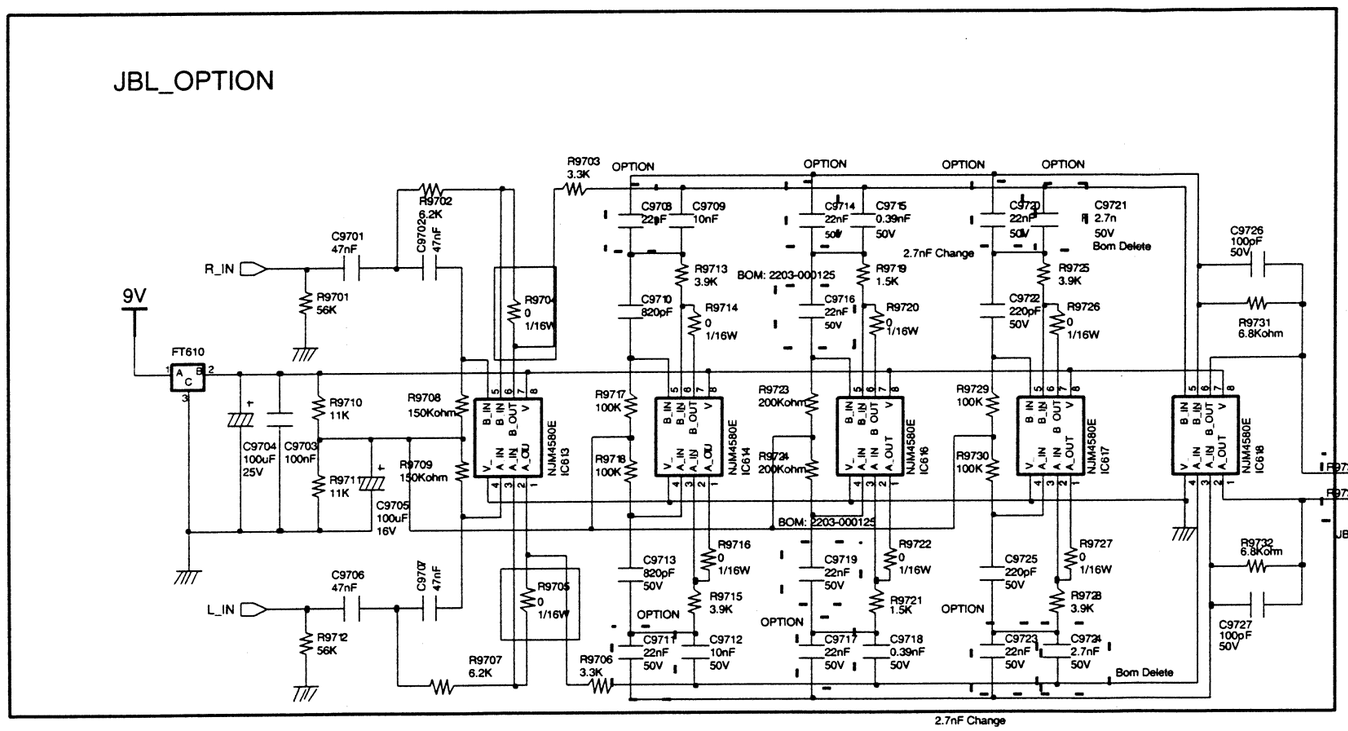
FS WE
FS CAS
FS RAS
FS CLK

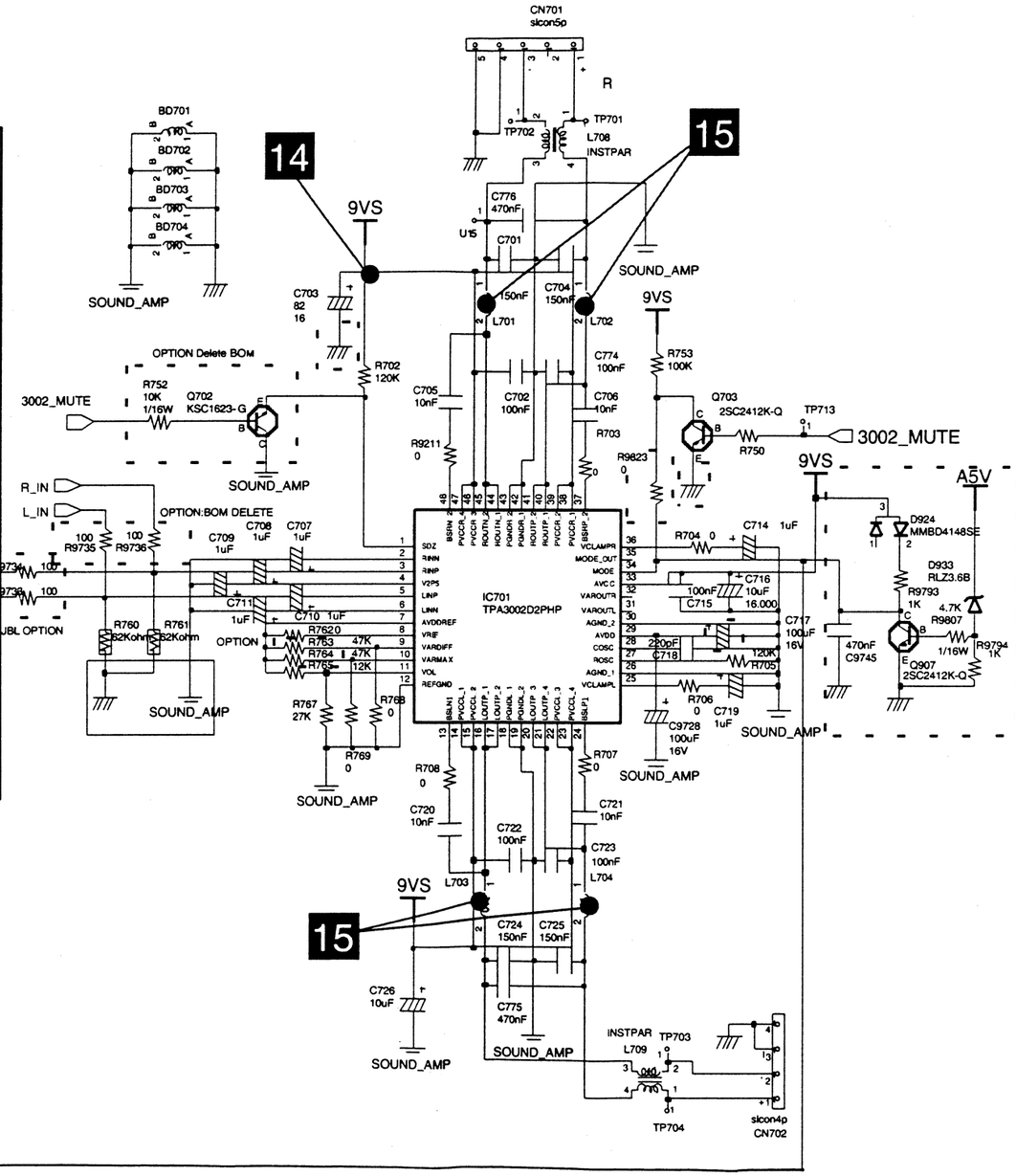
FSADDR_565(0:13)

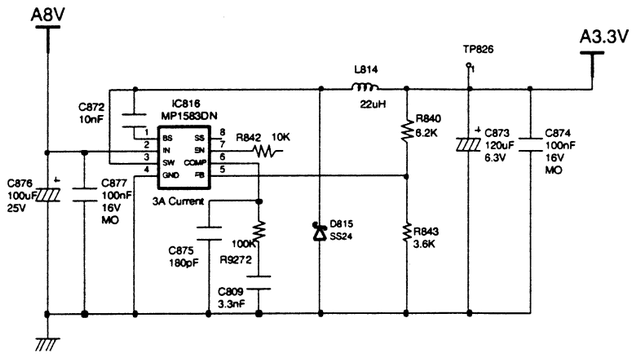
3.3V

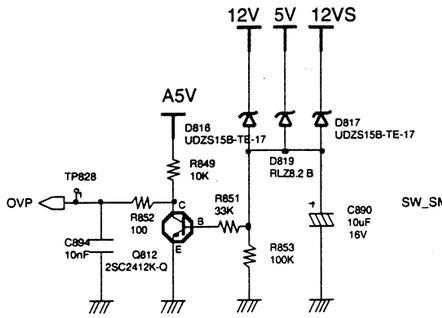

14
9V
WOOPER_OUT
CN703
jack3p_b
TP722
BD616
10uH-K
RLZ8.2
D622
RLZ8.2
D623
C796
0.33nF
R9743
4.7K
Q611
KSC1623-G
R9742
1K
R9792
1K
KSC1623-G
Q908
C713
3.3nF
R663
4.7K
R662
4.7K
Q612
KSC1623-G
AMP_MUTE
R666
1K
C749
4.7uF
25V
TP705
TP706
R_IN
L_IN
R724
4.7K
1/16W
R725
4.7K
1/16W
C736
1nF
C737
1nF
14
8V
5V
Q701
KSC1623-Y
R711
18K
1/16W
D701
QZX363C5V6
D702
MMBD4148SE
SW_7050
C727
100uF
16V
C728
100uF
16V
C729
100pF
8V
L705
3.3UH
D705
BZT52-C15
C742
100uF
C743
1.5nF
C744
470pF
C745
10uF
C746
10uF
SC2_R_OUT
SC2_L_OUT
SC1_R_OUT
SC1_L_OUT
C791
10uF
C792
10uF
C793
10uF
C794
10uF
R791 100 1/16W
R792 100 1/16W
R793 100 1/16W
R794 100 1/16W
IC702
TDA7050T/N3
R722
100
C738
1uF
R720
20K
C740
4.7nF
R723
100
C739
1uF
R721
20K
R719
10K
R718
10K
C741
4.7nF
C730
100nF
C731
47uF
C734
100uF
C735
100uF
D703
RLZ8.2
D704
RLZ8.2
R717
4.7ohm
1/4W
R716
4.7ohm
1/4W
C732
330nF
C733
330nF
TP614
R9747
47
R660
1K
C797
0.33nF
BD614
10uH-K
TP989
RLZ8.2
D618
RLZ8.2
D620
RLZ8.2
D619
RLZ8.2
D621
TP613
R9748
47
R9744
1K
C795
0.33nF
BD615
10uH-K
TP721
BD617
10uH-K
C690
0.33nF
R9749
100
IDENT_HP
CN704
00052518
HP_OUT
13
IC703
MSP3410G-QA-C12
C747
100nF
16V MO
C748
4.7uF
25V
CH2_L_IN
CH2_R_IN
CH1_L_IN
CH1_R_IN
R737 1K
R736 1K
R735 1K
R734 1K
C753 4.7uF
C754 4.7uF
C755 4.7uF
C756 4.7uF
C758
100nF
C757
10uF
SIF
C759
0.056nF
50V
MO
C765
0.056nF
50V
MO
C762
470pF
C763
1.5nF
C764
22uF
5V
SIF
L707
3.3UH
C760
47uF
16V
C761
47nF
D707
RLZ8.2
X701
16.432MHz
C767
3pF
C768
3pF
OPTION
R9243
100
1/16W
R733
100
1/16W
HC-49/SM5H_18R432
TP709
DELAY2
SW_7050
U14
R729
100
RESET_AUDIO
C772
10uF
16V
C773
100nF
16V MO
5V
R728
4.7K
L706
3.3UH
C769
100nF
C770
10uF
D706
RLZ8.2
R795
0
1/16W
OPTION
TP919
TP918
TP917
TP711
TP712
R9246 10
R9245 10
R9244 10
R731 10
R732 10
R730
1K
S_DATA_OUT
S_DATA_IN
S_CLK
SDA3
SCL3
FB
SC
ohm,5%,1/16W,DA,TP,1608
R-CHIP
NC_10
CAPL_M
AHVSUP
CAPL_A
SC1_OUT_L
SC1_OUT_R
VREF1
SC2_OUT_L
SC2_OUT_R
NC_9
NC_8
DACM_SUB
NC_7
DACM_L
DACM_R
VREF2
DACA_L
DACA_R
NC_6
NC_5
RESETQ
NC_4
NC_3
NC_2
12S_DA_IN2
DVSS_3
DVSS_2
DVSS_1
DVSUP_3
DVSUP_2
DVSUP_1
ADR_CL
ADR_WS
ADR_DA
12S_DA_IN1
12S_DA_OUT
12S_WS
12S_CL
12C_DA
12C_CL
NC_1
NC_11
AHVSS_1
AHVSS_2
AGNDC
NC_12
SC4_IN_L
SC4_IN_R
ASG_1
SC3_IN_L
SC3_IN_R
ASG_2
SC2_IN_L
SC2_IN_R
ASG_3
SC1_IN_L
SC1_IN_R
VREFTO
NC_13
MONO_I
AVSS_
AVSS_
NC_14
NC_15
AVSUP_1
AVSUP_2
ANA_IN
ANA_IN_
ANA_IN2
TESTEN
XTAL_IN
XTAL_OUT
TP
AUD CL_OUT
NC_16
NC_17
D_CTR IO_1
D_CTR_IO_0
ADR_SEL
STANDBYQ

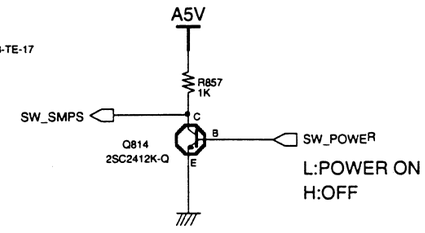
JBL_OPTION

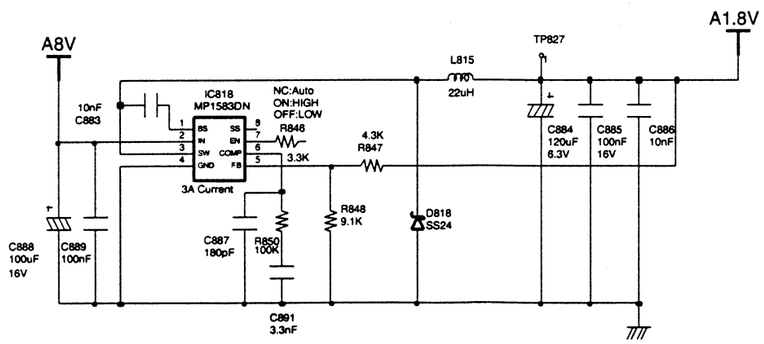

R9703 3.3K
OPTION
C9708 22pF
C9709 10nF
C9714 22nF 50V
C9715 0.39nF 50V
C9720 22nF 50V
C9721 2.7n 50V Bom Delete
2.7nF Change
R9713 3.9K
R9719 1.5K
R9725 3.9K
BOM: 2203-000125
C9710 820pF
R9714 0 1/16W
C9716 22nF 50V
R9720 0 1/16W
C9722 220pF 50V
R9726 0 1/16W
C9726 100pF 50V
R9731 6.8Kohm
R9702 2K
C9702 47nF
C9701 47nF
R_IN
9V
R9701 56K
FT610
R9710 11K
R9708 150Kohm
R9717 100K
R9723 200Kohm
R9729 100K
C9704 100uF 25V
C9703 100nF
R9711 11K
C9705 100uF 16V
R9709 150Kohm
R9718 100K
R9724 200Kohm
R9730 100K
NJM4580E IC613
NJM4580E IC614
NJM4580E IC616
NJM4580E IC617
NJM4580E IC618
R9732 6.8Kohm
C9727 100pF 50V
C9706 47nF
C9707 47nF
L_IN
R9712 56K
R9705 0 1/16W
R9707 6.2K
R9706 3.3K
C9713 820pF 50V
R9716 0 1/16W
C9719 22nF 50V
R9722 0 1/16W
C9725 220pF 50V
R9727 0 1/16W
OPTION
C9711 22nF 50V
C9712 10nF 50V
R9715 3.9K
C9717 22nF 50V
C9718 0.39nF 50V
R9721 1.5K
C9723 22nF 50V
C9724 2.7nF 50V
R9728 3.9K
Bom Delete
BOM: 2203-000125
2.7nF Change


CN701 slcon5p
R
BD701
BD702
BD703
BD704
SOUND_AMP
14
15
9VS
TP701
TP702
L708 INSTPAR
C776 470nF
U15
C701
C703 82 16
150nF
C704 150nF
L701
L702
OPTION Delete BOM
R702 120K
C774 100nF
R753 100K
3002_MUTE
R752 10K 1/16W
Q702 KSC1623-G
C705 10nF
C702 100nF
C706 10nF
R703
R9211 0
Q703 2SC2412K-Q
TP713
R750
R9823 0
A5V
R_IN
L_IN
OPTION:BOM DELETE
100 R9735
100 R9736
C709 1uF
C708 1uF
C707 1uF
R9734 100
R9736 100
C711 1uF
C710 1uF
R760 82Kohm
R761 82Kohm
OPTION
R7620
R763 47K
R764 47K
R765 12K
IC701 TPA3002D2PHP
R704 0
C714 1uF
C716 100nF
C715 10uF 16.000
D924 MMBD4148SE
D933 RLZ3.6B
R9793 1K
R9807 4.7K 1/16W
R9794 1K
Q907 2SC2412K-Q
C717 100uF 16V
470nF C9745
220pF C718
120K R705
R706 0
C719 1uF
C9728 100uF 16V
R767 27K
R768 0
R769 0
R708 0
R707 0
C720 10nF
C721 10nF
C722 100nF
C723 100nF
L703
L704
C724 150nF
C725 150nF
C726 10uF
C775 470nF
INSTPAR
TP703
L709
TP704
slcon4p
CN702

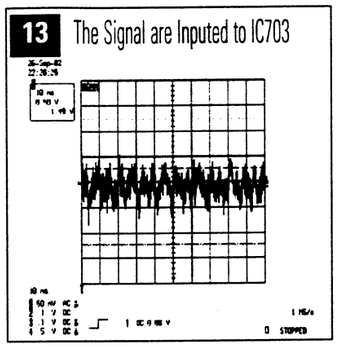




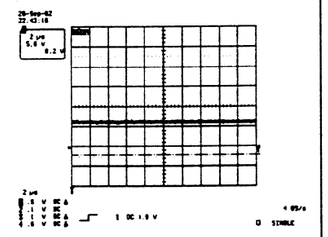




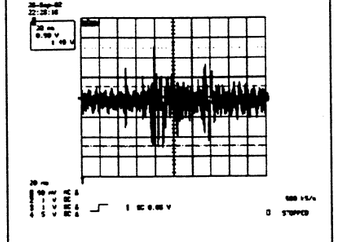
13 The Signal are Inputed to IC703



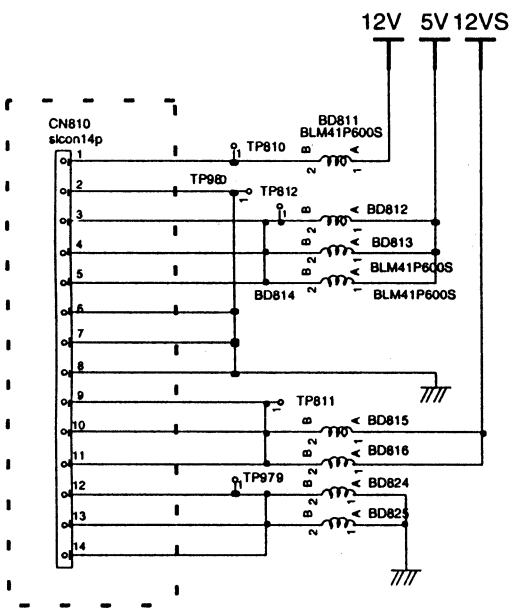
14 DC +8V

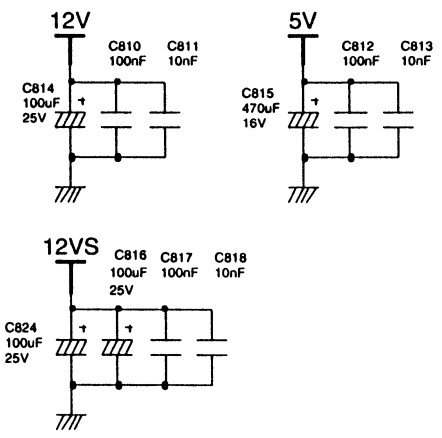


15 Output WaveForm



POWER





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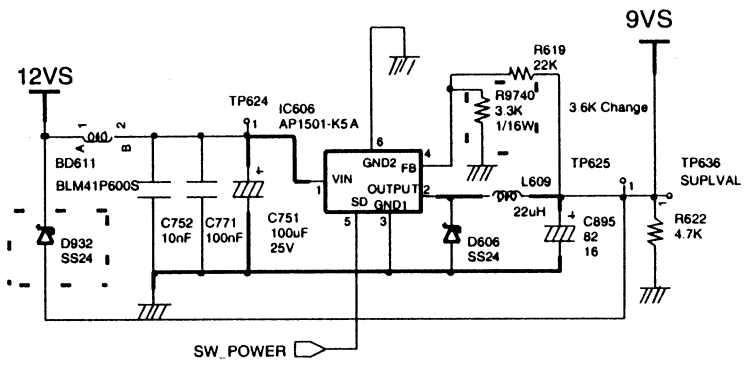
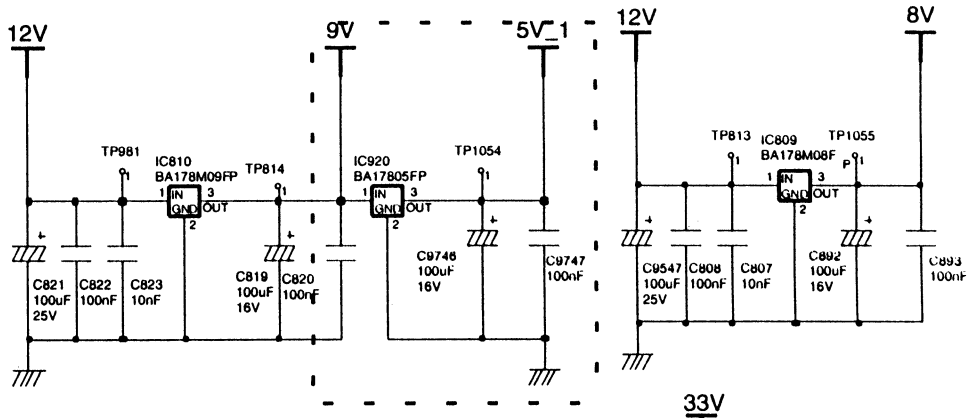
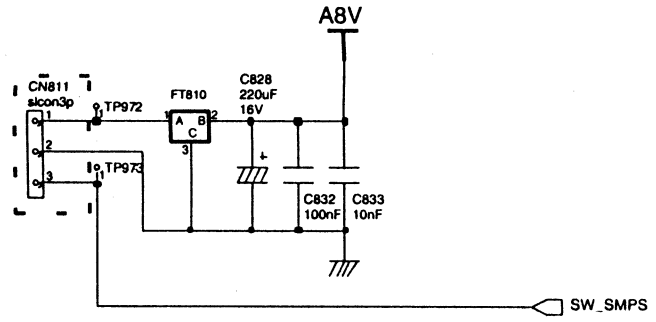
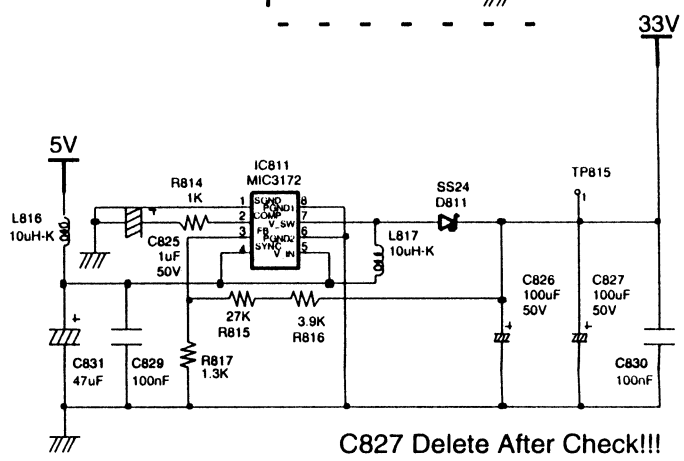
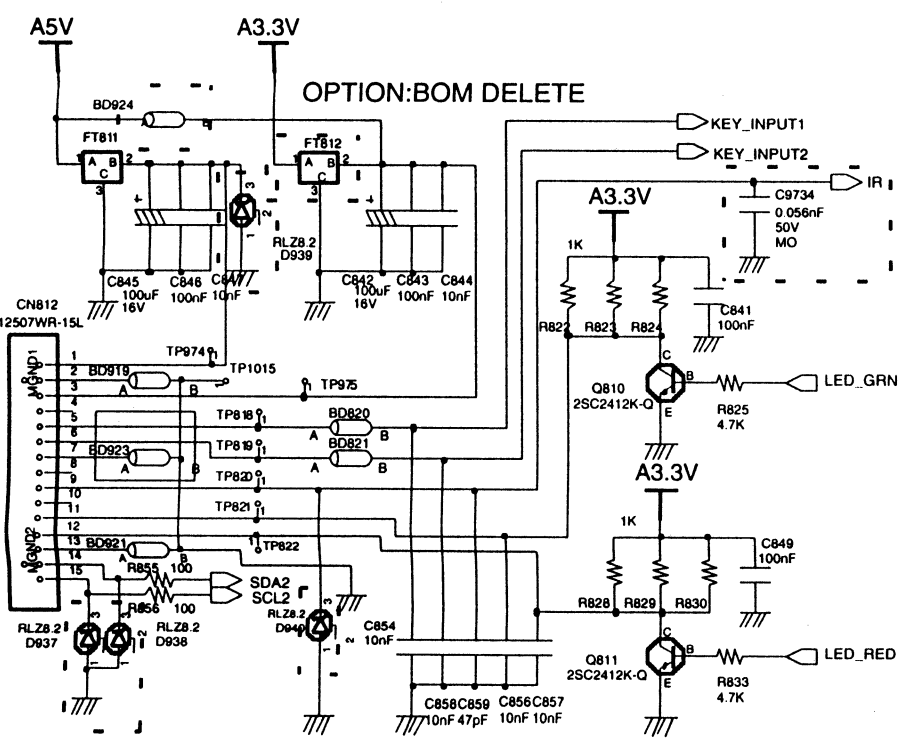


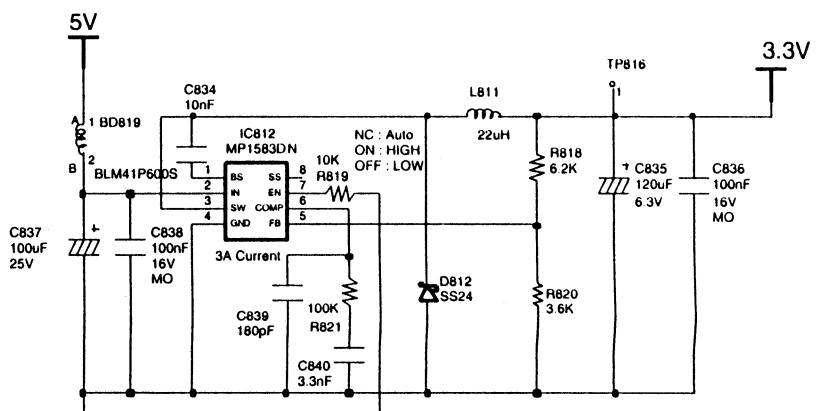


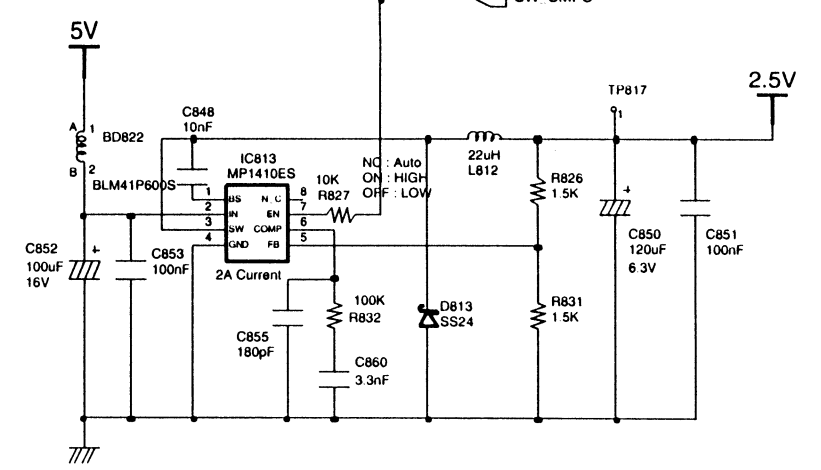


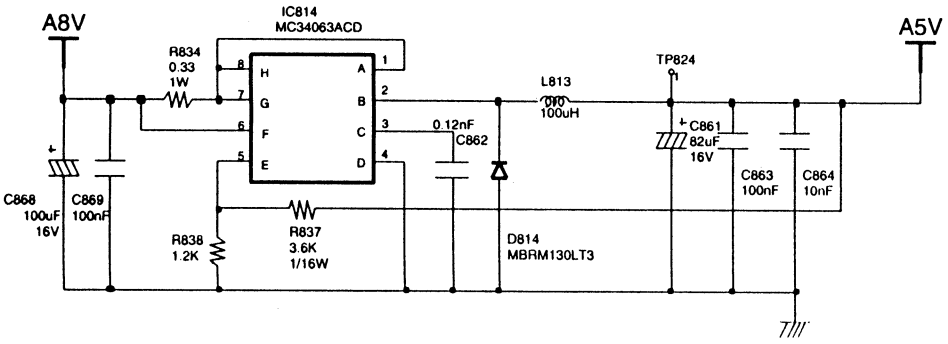


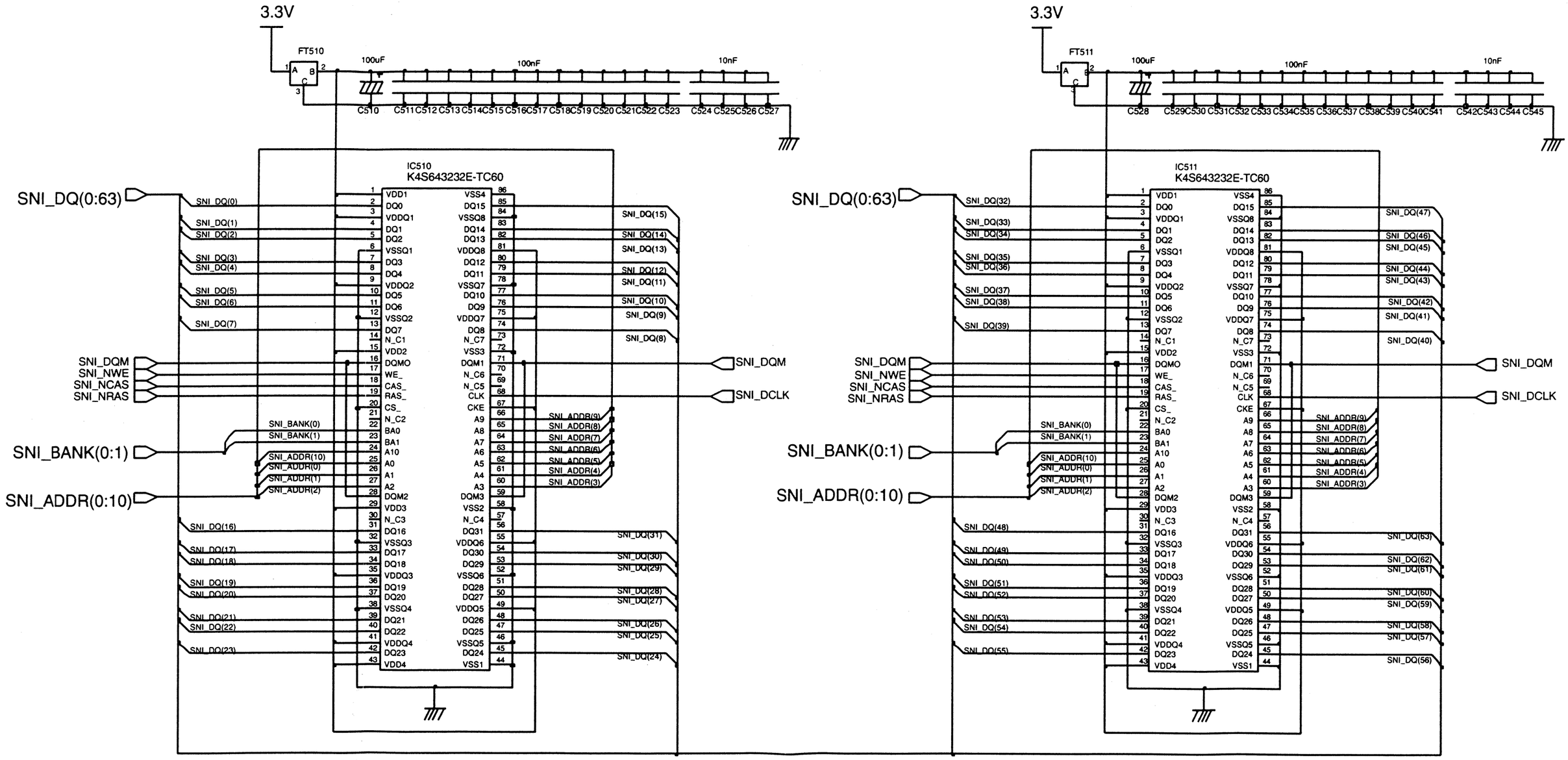
C827 Delete After Check!!!










3.3V
FT510
100uF
100nF
10nF
C510
C511 C512 C513 C514 C515 C516 C517 C518 C519 C520 C521 C522 C523
C524 C525 C526 C527
IC510
K4S643232E-TC60
SNI_DQ(0:63)
SNI_DQ(0)
SNI_DQ(1)
SNI_DQ(2)
SNI_DQ(3)
SNI_DQ(4)
SNI_DQ(5)
SNI_DQ(6)
SNI_DQ(7)
SNI_DQ(8)
SNI_DQ(9)
SNI_DQ(10)
SNI_DQ(11)
SNI_DQ(12)
SNI_DQ(13)
SNI_DQ(14)
SNI_DQ(15)
SNI_DQ(16)
SNI_DQ(17)
SNI_DQ(18)
SNI_DQ(19)
SNI_DQ(20)
SNI_DQ(21)
SNI_DQ(22)
SNI_DQ(23)
SNI_DQ(24)
SNI_DQ(25)
SNI_DQ(26)
SNI_DQ(27)
SNI_DQ(28)
SNI_DQ(29)
SNI_DQ(30)
SNI_DQ(31)
SNI_DQM
SNI_NWE
SNI_NCAS
SNI_NRAS
SNI_DCLK
SNI_BANK(0:1)
SNI_BANK(0)
SNI_BANK(1)
SNI_ADDR(0:10)
SNI_ADDR(10)
SNI_ADDR(0)
SNI_ADDR(1)
SNI_ADDR(2)
SNI_ADDR(3)
SNI_ADDR(4)
SNI_ADDR(5)
SNI_ADDR(6)
SNI_ADDR(7)
SNI_ADDR(8)
SNI_ADDR(9)
VDD1 VDD2 VDD3 VDD4
VSS1 VSS2 VSS3 VSS4
VDDQ1 VDDQ2 VDDQ3 VDDQ4 VDDQ5 VDDQ6 VDDQ7 VDDQ8
VSSQ1 VSSQ2 VSSQ3 VSSQ4 VSSQ5 VSSQ6 VSSQ7 VSSQ8
DQ0 DQ1 DQ2 DQ3 DQ4 DQ5 DQ6 DQ7 DQ8 DQ9 DQ10 DQ11 DQ12 DQ13 DQ14 DQ15
DQ16 DQ17 DQ18 DQ19 DQ20 DQ21 DQ22 DQ23 DQ24 DQ25 DQ26 DQ27 DQ28 DQ29 DQ30 DQ31
DQM0 DQM1 DQM2 DQM3
N_C1 N_C2 N_C3 N_C4 N_C5 N_C6 N_C7
BA0 BA1
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10
CS_ RAS_ CAS_ WE_ CKE CLK
3.3V
FT511
100uF
100nF
10nF
C528
C529 C530 C531 C532 C533 C534 C535 C536 C537 C538 C539 C540 C541
C542 C543 C544 C545
IC511
K4S643232E-TC60
SNI_DQ(0:63)
SNI_DQ(32)
SNI_DQ(33)
SNI_DQ(34)
SNI_DQ(35)
SNI_DQ(36)
SNI_DQ(37)
SNI_DQ(38)
SNI_DQ(39)
SNI_DQ(40)
SNI_DQ(41)
SNI_DQ(42)
SNI_DQ(43)
SNI_DQ(44)
SNI_DQ(45)
SNI_DQ(46)
SNI_DQ(47)
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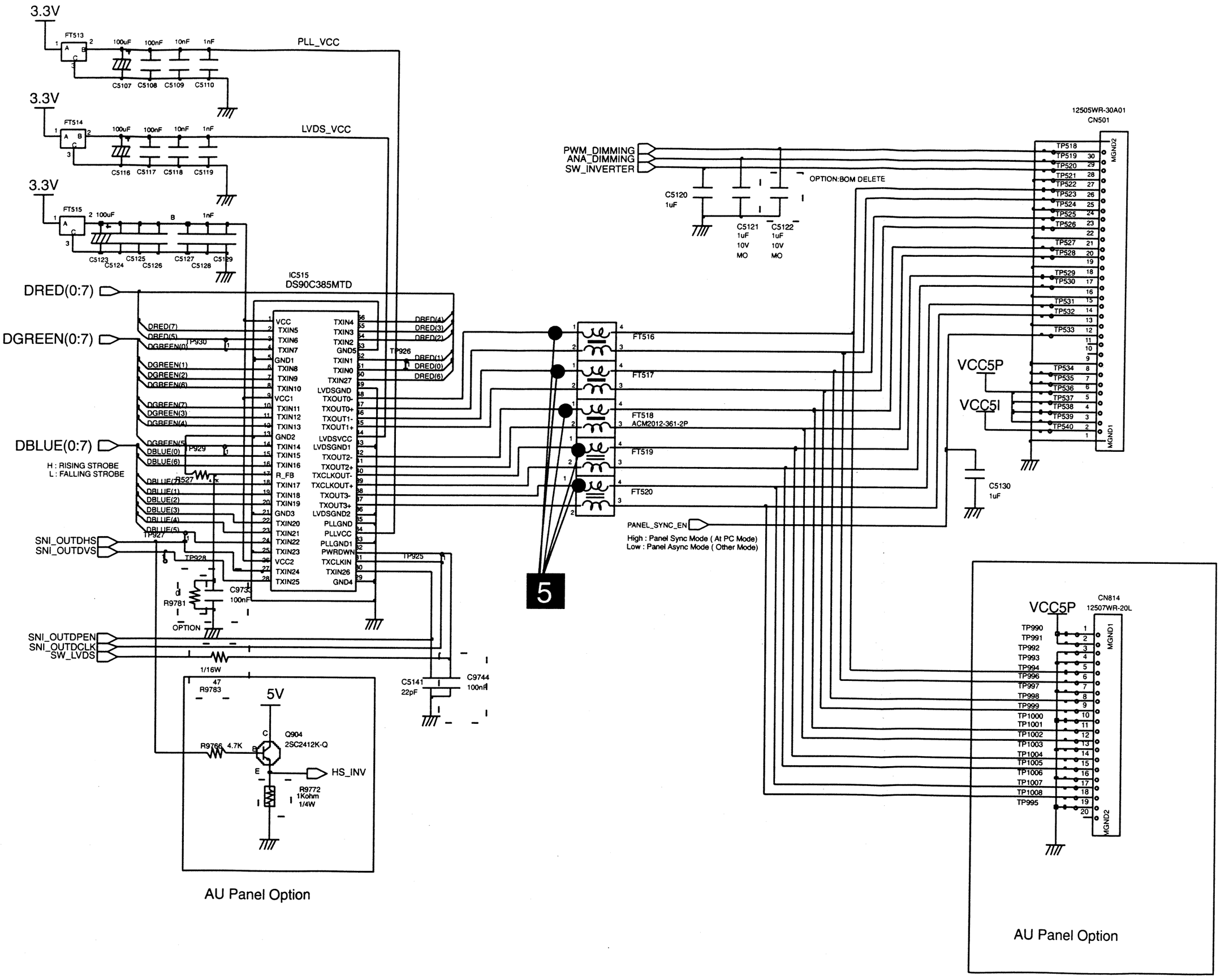
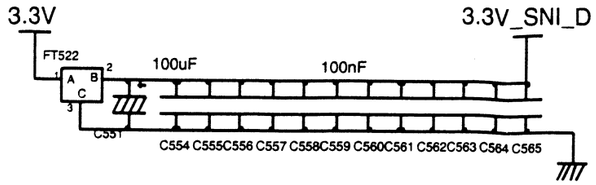
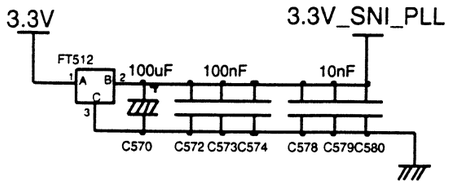
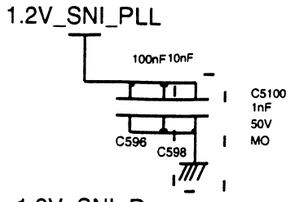
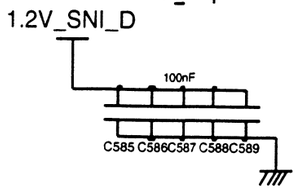
SNI_DQ(58)
SNI_DQ(59)
SNI_DQ(60)
SNI_DQ(61)
SNI_DQ(62)
SNI_DQ(63)
SNI_DQM
SNI_NWE
SNI_NCAS
SNI_NRAS
SNI_DCLK
SNI_BANK(0:1)
SNI_BANK(0)
SNI_BANK(1)
SNI_ADDR(0:10)
SNI_ADDR(10)
SNI_ADDR(0)
SNI_ADDR(1)
SNI_ADDR(2)
SNI_ADDR(3)
SNI_ADDR(4)
SNI_ADDR(5)
SNI_ADDR(6)
SNI_ADDR(7)
SNI_ADDR(8)
SNI_ADDR(9)
VDD1 VDD2 VDD3 VDD4
VSS1 VSS2 VSS3 VSS4
VDDQ1 VDDQ2 VDDQ3 VDDQ4 VDDQ5 VDDQ6 VDDQ7 VDDQ8
VSSQ1 VSSQ2 VSSQ3 VSSQ4 VSSQ5 VSSQ6 VSSQ7 VSSQ8
DQ0 DQ1 DQ2 DQ3 DQ4 DQ5 DQ6 DQ7 DQ8 DQ9 DQ10 DQ11 DQ12 DQ13 DQ14 DQ15
DQ16 DQ17 DQ18 DQ19 DQ20 DQ21 DQ22 DQ23 DQ24 DQ25 DQ26 DQ27 DQ28 DQ29 DQ30 DQ31
DQM0 DQM1 DQM2 DQM3
N_C1 N_C2 N_C3 N_C4 N_C5 N_C6 N_C7
BA0 BA1
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10
CS_ RAS_ CAS_ WE_ CKE CLK

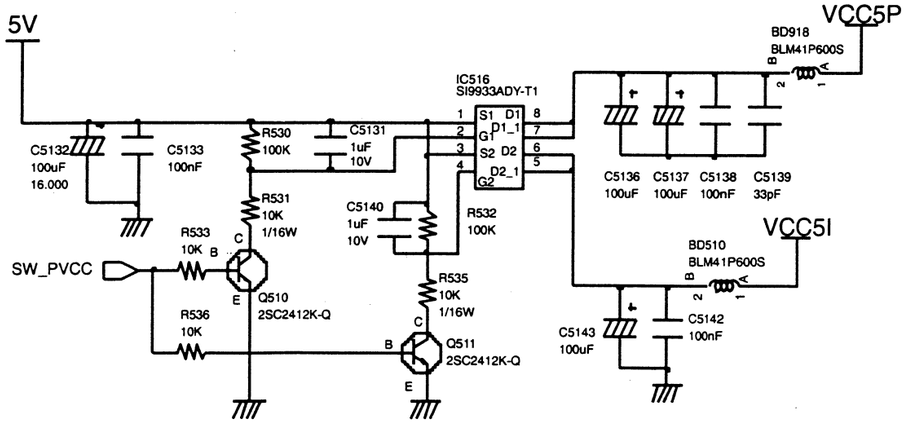

3.3V
FT513
100uF
100nF
10nF
1nF
PLL_VCC
C5107 C5108 C5109 C5110
3.3V
FT514
LVDS_VCC
C5116 C5117 C5118 C5119
3.3V
FT515
C5123 C5124 C5125 C5126 C5127 C5128 C5129
IC515
DS90C385MTD
DRED(0:7)
DGREEN(0:7)
DBLUE(0:7)
H : RISING STROBE
L : FALLING STROBE
P930
P929
R527 4.7K
TP927
TP928
TP926
TP925
SNI_OUTDHS
SNI_OUTDVS
SNI_OUTDPEN
SNI_OUTDCLK
SW_LVDS
C9733
100nF
R9781
OPTION
1/16W
47
R9783
5V
Q904
2SC2412K-Q
R9766 4.7K
HS_INV
R9772
1Kohm
1/4W
C5141
22pF
C9744
100nF
VCC TXIN5 TXIN6 TXIN7 GND1 TXIN8 TXIN9 TXIN10 VCC1 TXIN11 TXIN12 TXIN13 GND2 TXIN14 TXIN15 TXIN16 R_FB TXIN17 TXIN18 TXIN19 GND3 TXIN20 TXIN21 TXIN22 TXIN23 VCC2 TXIN24 TXIN25
TXIN4 TXIN3 TXIN2 GND5 TXIN1 TXIN0 TXIN27 LVDSGND TXOUT0- TXOUT0+ TXOUT1- TXOUT1+ LVDSVCC LVDSGND1 TXOUT2- TXOUT2+ TXCLKOUT- TXCLKOUT+ TXOUT3- TXOUT3+ LVDSGND2 PLLGND PLLVCC PLLGND1 PWRDWN TXCLKIN TXIN26 GND4
DRED(4) DRED(3) DRED(2) DRED(1) DRED(0) DRED(6)
FT516
FT517
FT518
ACM2012-361-2P
FT519
FT520
PANEL_SYNC_EN
High : Panel Sync Mode (At PC Mode)
Low : Panel Async Mode (Other Mode)
PWM_DIMMING
ANA_DIMMING
SW_INVERTER
C5120
1uF
OPTION:BOM DELETE
C5121
1uF
10V
MO
C5122
1uF
10V
MO
12505WR-30A01
CN501
TP518 TP519 TP520 TP521 TP522 TP523 TP524 TP525 TP526 TP527 TP528 TP529 TP530 TP531 TP532 TP533 TP534 TP535 TP536 TP537 TP538 TP539 TP540
MGND2
MGND1
VCC5P
VCC5I
C5130
1uF
5
AU Panel Option
CN814
12507WR-20L
VCC5P
TP990 TP991 TP992 TP993 TP994 TP996 TP997 TP998 TP999 TP1000 TP1001 TP1002 TP1003 TP1004 TP1005 TP1006 TP1007 TP1008 TP995
MGND1
MGND2
AU Panel Option

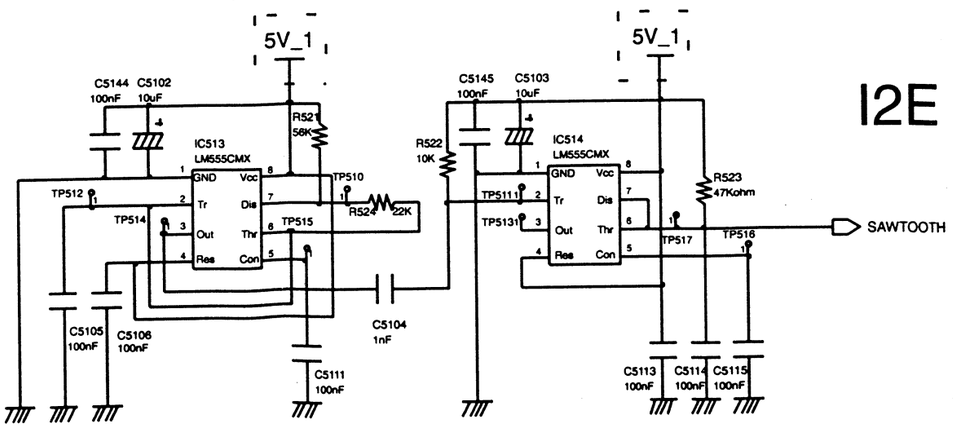




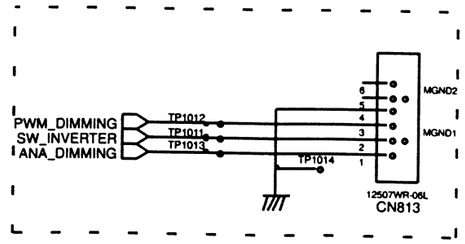




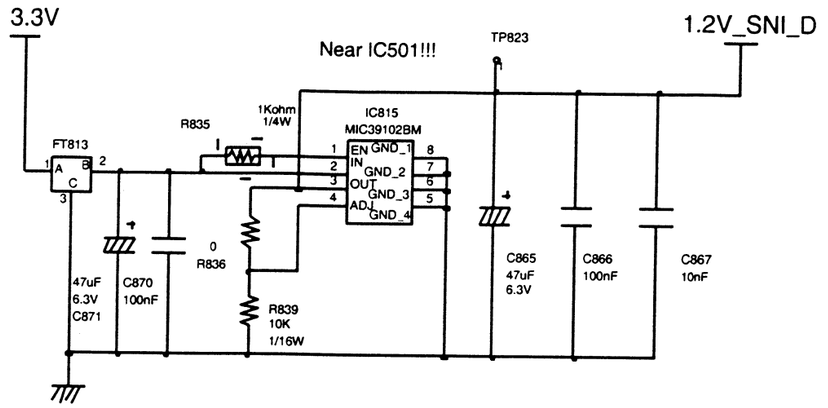


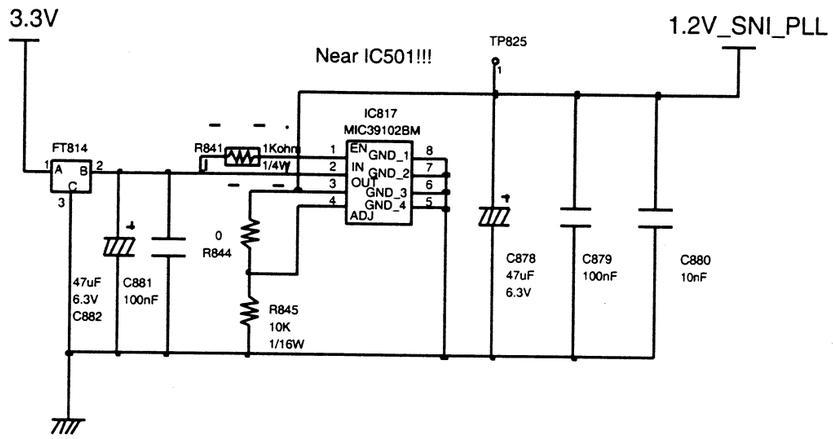


I2E

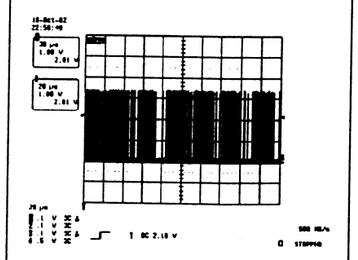


To Inverter(AU Panel Option)

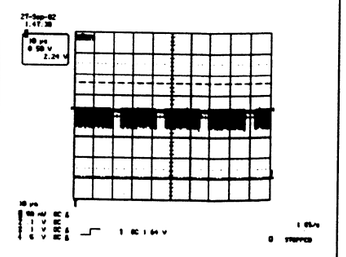




4 Output Digital Signal of IC501



5 Digital Output Data of IC515



IC501
DNIEPRO

SNI_DQ(0:63)
SNI_ADDR(0:10)
SNI_BANK(0:1)
SNI_DCLK
SNI_DQM
SNI_NCAS
SNI_NRAS
SNI_NWE
R510 33
R511 22
R512 22
R513 22
R514 22

DNI_INDHS
DNI_INDVS
DNI_INDCLK
R515 0
TP922 TP921 TP923
H3 I_HSYNC
J1 I_VSYNC
H2 I_CLK
K3 I_EXT_CLK

DNI_IRED(0:7)
DNI_IRED(0) C11 I_IND_RCR0
DNI_IRED(1) D11 I_IND_RCR1
DNI_IRED(2) A12 I_IND_RCR2
DNI_IRED(3) B12 I_IND_RCR3
DNI_IRED(4) C12 I_IND_RCR4
DNI_IRED(5) D12 I_IND_RCR5
DNI_IRED(6) A13 I_IND_RCR6
DNI_IRED(7) B13 I_IND_RCR7

DNI_IGREEN(0:7)
DNI_IGREEN(0) B5 I_IND_GYY0
DNI_IGREEN(1) A5 I_IND_GYY1
DNI_IGREEN(2) C6 I_IND_GYY2
DNI_IGREEN(3) B6 I_IND_GYY3
DNI_IGREEN(4) A6 I_IND_GYY4
DNI_IGREEN(5) B7 I_IND_GYY5
DNI_IGREEN(6) C7 I_IND_GYY6
DNI_IGREEN(7) A7 I_IND_GYY7

DNI_IBLUE(0:7)
TP924
DNI_IBLUE(0) E1 I_IND_BCB0
DNI_IBLUE(1) D1 I_IND_BCB1
DNI_IBLUE(2) D3 I_IND_BCB2
DNI_IBLUE(3) C1 I_IND_BCB3
DNI_IBLUE(4) B1 I_IND_BCB4
DNI_IBLUE(5) A1 I_IND_BCB5
DNI_IBLUE(6) C2 I_IND_BCB6
DNI_IBLUE(7) B2 I_IND_BCB7

A8 I_DTV_RED0
A9 I_DTV_RED1
B9 I_DTV_RED2
A10 I_DTV_RED3
B10 I_DTV_RED4
C10 I_DTV_RED5
A11 I_DTV_RED6
B11 I_DTV_RED7

A2 I_DTV_GRN0
C3 I_DTV_GRN1
B3 I_DTV_GRN2
A3 I_DTV_GRN3
C4 I_DTV_GRN4
B4 I_DTV_GRN5
A4 I_DTV_GRN6
C5 I_DTV_GRN7

G1 I_DTV_BLU0
G2 I_DTV_BLU1
G3 I_DTV_BLU2
F2 I_DTV_BLU3
F1 I_DTV_BLU4
F3 I_DTV_BLU5
F4 I_DTV_BLU6
K2 I_DTV_BLU7

J3 I_DTV_CLK
J4 I_DTV_HSYNC
J2 I_DTV_VSYNC

H1 I_BISTMODE0
M1 I_BISTMODE1
L2 I_SCAN_ENABLE
N1 I_nRESET

3.3V
R541 4.7K
RESET_DNIE
R516 100

SDA1
SCL1
R519 100
R520 100
R537 0
R538 0
C9729 47pF 50V MO
C9730 47pF 50V MO
C9731 47pF 50V MO
C9732 47pF 50V MO
1.2V_SNI_D
1.2V_SNI_PLL
3.3V_SNI_D
3.3V_SNI_PLL

DRED(0:7)
DGREEN(0:7)
DBLUE(0:7)
RA512 22
RA514 22
RA516 22
RA518 22
RA520 22
RA521 22
RA522 22
R539 0
R540 75
SNI_OUTDCLK
SNI_OUTDPEN
SNI_OUTDHS
SNI_OUTDVS
C549 15pF 50V
C550 15pF 50V
C547 15pF 50V

4

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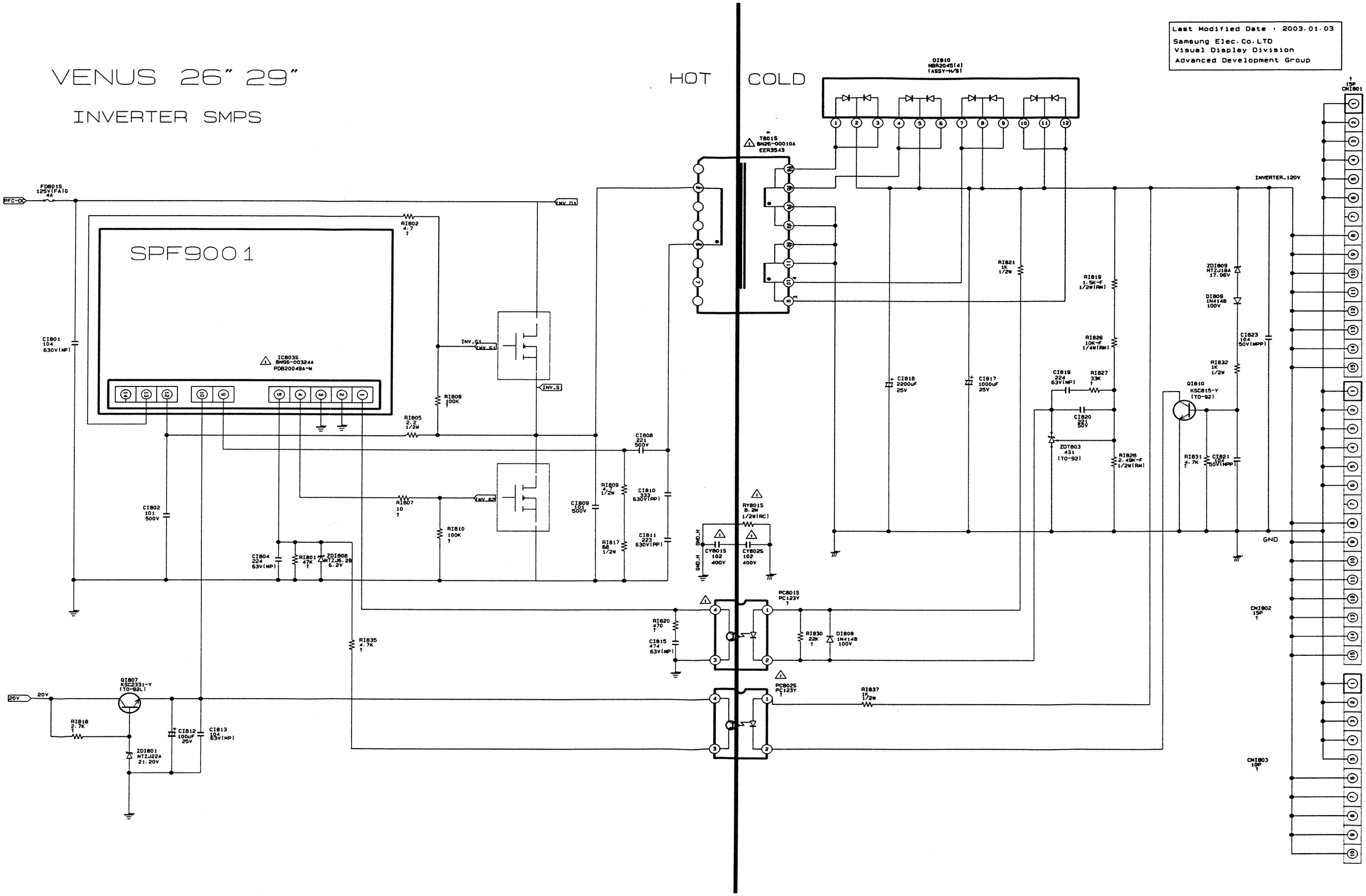
11-7 MAIN POWER 1_INVERTER Schematic Diagram



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11-8 MAIN POWER 2_PFC Schematic Diagram

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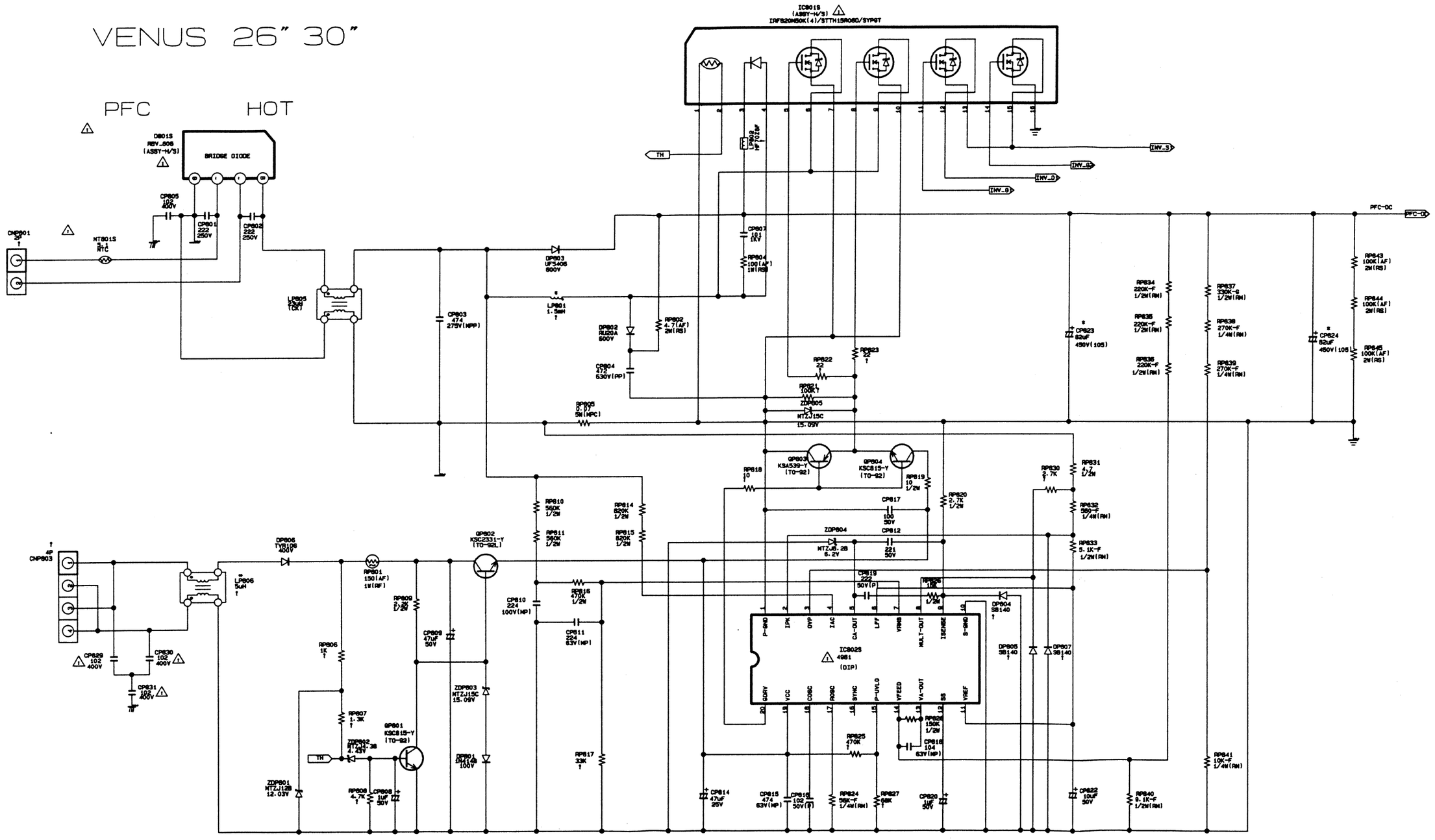
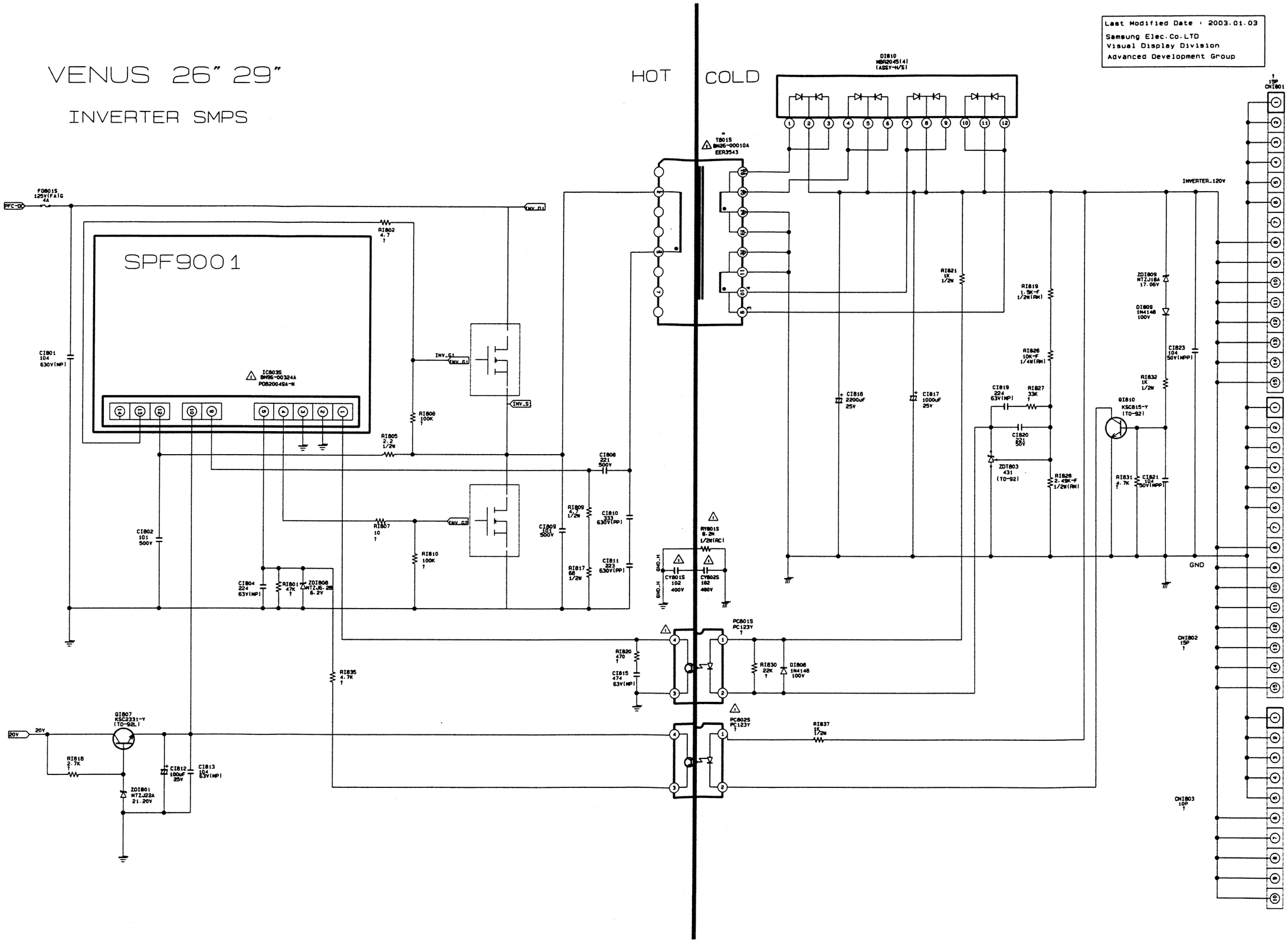


Last Modified Date : 2003.01.03
Samsung Elec.Co.LTD
Visual Display Division
Advanced Development Group

11-9 MAIN POWER 3_MULTI Schematic Diagram



11-10 SUB POWER Schematic Diagram

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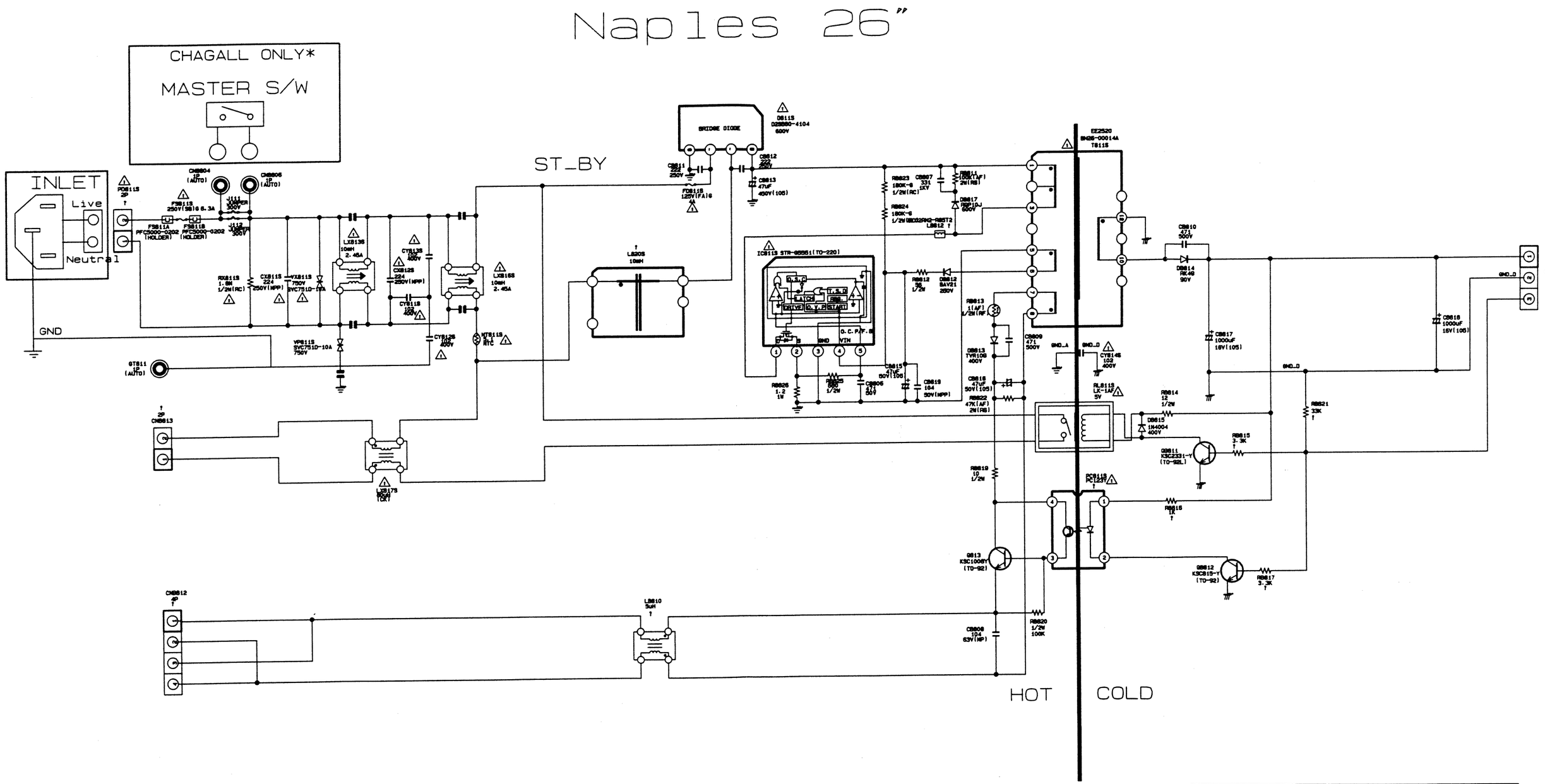

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Advanced Development Group